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Lilium Tenuifolium.



MARCH, 1898.

IN NO way can more accurate or useful ideas be obtained in relation to the state of horticulture in this country than through the reports of the various horticultural societies. Two of the most important of these societies, the State Horticultural Association of Pennsylvania, and the Western New York Horticultural Society, held their annual meetings in January, and some portions of their proceedings of greatest interest to the general public occupy considerable space in our pages this month.

The State Horticultural Association of Pennsylvania held its 29th annual session at Lebanon, Pa., commencing January 18th. A fine display of flowers, plants

and vegetables was made.

The treasurer's report shows the society to be in a flourishing condition financially, and the proceedings, as a whole, indicate a prosperous year.

The interest of the meeting centers about the report of CYRUS T. Fox, Chairman of the General Fruit Committee, from which the following extracts are taken:

APPLES.

The Apple crop in general was poor, both as to quantity

and quality. In some counties, however, the yield was exceptionally good, and even in counties where most orchards produced poorly, there were favored localities where fair crops were realized. The mountain districts of the State and the northern tier of counties were the most fortunate, but in nearly all other sections the crop of Apples was below the average of former "off" years. Most of the replies as to yield were expressed in the single word "light." In counties, however, where there were good crops, the

quality was poor. Much of the fruit dropped in the latter part of the season on account of the drought. In the southeastern section of the State, comprising all that portion lying east of the Blue Ridge, the extremely moist and hot weather of mid-summer had a disastrous effect. The visitation of leaf-eating insects was also unusually severe. The codlin moth caused much of the fruit to drop before it was ripe.

PEARS.

There was a fair yield of Pears, although the crop was by no means large in any county. In some parts of the State there was less than half the usual crop. Almost every county reports damages to the trees by blight, and the fruit injured by the ravages of insects. The overbearing of trees in the previous year had much to do with the failure of the crop in 1887, and another cause was wet weather, both during the blossoming period and in the hot month of July. There was but little blight in the counties along the Ohio border, and in Beaver, Crawford, Washington, and others in the western part of the State the trees produced abundantly. There were no reports in regard to the newer Pears. The Keifer is reported to have yielded heavily in Bucks County, while in Columbia it did worse than ever, and the Duchesse was not much better. In the latter county there was a full crop of Pears, and no blight.

PEACHES.

In the eastern and southeastern sections of the State the Peach crop was a failure. Favorable reports, however, were received from the northern and western counties. In southeastern Pennsylvania the crop was short on account of the cold rains in spring, while the trees were in bloom. What fruit set and matured, decayed badly, owing to unfavorable weather. Through the Cumberland Valley some Peach orchards yielded largely, but the crop as a whole was not an average one. In some of the western counties the crop was the largest in many years, except in Beaver, where it was almost entirely destroyed by rose-bugs. The crop was good in that county where it escaped the bugs. In Crawford county every variety bore well, and a more extensive crop was never gathered

in that section of the State. The same statement is true in regard to the adjoining county of Warren, and other localities in the northwest. In Clarion the Peach crop was so large that the fruit sold for a mere song. Moving eastward, the crop in Clinton is reported to have been "extra," both in quantity and quality, and in Columbia it was "too full to mature perfectly." In most counties, however, very little attention is paid to Peach culture. This is due to the diseases that growers must contend with, the principal being "the yellows," the origin of which remains as great a mystery as ever.

PLUMS.

Two-thirds of the counties of the State reported the Plum crop to have been an entire failure. In the remaining third not one-half an average crop was realized. The large crop of the previous year in some localities, when the trees overbore, was followed by a total absence of fruit in 1887. The curculio continues to be the chief enemy of the Plum, but during the past year "the rot" was the main cause of failure. With most growers no varieties have turned out "curculio proof"; but where the fruit was saved from the ravages of the insects by jarring the trees, the rot finished the crop. The varieties principally recommended for general cultivation in the reports received are the Richland, Dawson, and Lombard. The disease commonly called the "black knot" has proved a serious drawback, and discouraged people from giving to the Plum the share of attention which its importance as a fruit deserves. This fungus growth is mainly the result of neglect, and good, clean culture and prompt amputation are recommended as the proper remedies.

QUINCES.

The cultivation of the Quince is receiving greater attention, and the crop, when it succeeds, is very profitable. Where orchards have been established near the large cities, handsome returns have been realized. The fruit is not given the attention which it deserves in the State at large, and the reports from a number of counties indicate that only a few trees are planted in gardens for the home supply. The borer and codlin moth were unusually destructive last year. The

latter was severe upon the tender-fleshed kinds. Some localities, however, were favored with exceptionally good crops, both as to quantity and perfection of fruit. In Columbia there was a large crop, but the fruit was defective. In Montgomery county there would have been the usual good crop of Champion Quinces, but the trees were completely stripped by all sorts of leaf-eating insects. The Orange is the variety most extensively cultivated.

CHERRIES.

The Cherry crop was poor throughout the State, most Counties reporting an entire failure. Some correspondents attribute the cause to rain during the blossoming period. The sour varieties are reported as the most profitable, the sweet varieties invariably rotting, like the Plums, before they are ripe. The Early Richmond seems to be a general favorite. Other varieties that are favorably mentioned are: Governor Wood, May Duke, Black Eagle and Conestoga. One correspondent reports having some Dyehouse trees which came into bearing last spring, and according to his experience this variety is not earlier than the Early Richmond. Another correspondent remarks that the market for Cherries is easily overstocked; when the crop is not shortened by rain during the picking season, the price received barely pays the cost of picking and marketing.

GRAPES.

The reports show that there was a quite satisfactory yield of Grapes all over the State, but in many localities there was a great deal of rot and mildew. In other sections the crop was injured by hot, dry weather, while insect pests destroyed the foliage and shortened the time of marketing the fruit by at least two weeks. Where fruit was bagged early the results were good. In the opinion of a number of correspondents this was no year to report on new varieties, as the Concord and other old reliable kinds showed considerable rot. The Concord, however, continues to be the favorite variety in nearly all counties. "Nearly all new varieties were a failure, and if we want Grapes we must plant the Concord," writes one correspondent. Crawford county says: "The Concord is the only variety that pays in this section." This

opinion is reiterated by a number of other counties. Of the newer varieties the Brighton has proved itself valuable. The Worden, Moore's Early, Empire State and Red Wyoming are highly commended by several correspondents. Of the white Grapes, the Niagara is reported to have rotted badly, while the Pocklington ripened its fruit almost perfectly.

SMALL FRUITS.

Generally, the crop of Strawberries was good, but the season was short. Most correspondents report a full crop, but others speak indifferently of the results, only from one-fourth to one-tenth of a crop having been realized. Of other small fruits—Raspberries, Blackberries, Gooseberries and Currants, the returns were medium. Raspberries and Blackberries suffered much from drought. In Central Pennsylvania Strawberries were hurt in the blooming period by heavy and continuous rain, and Raspberries were damaged by severe storms during the picking season, which shortened the crop about one-half. Chester county reports a very poor crop of Sharpless Strawberries, which outside of Crescent Seedling has been the leading variety in that section of the State. Those who were fortunate enough to have Crescent patches had a fine crop, and other varieties being a failure, of course, the Crescents brought a better price than usual. One farmer who had one-quarter of an acre realized \$250 from it. Dr. J. H. FUNK, of Berks county, raised six hundred bushels of Strawberries last year, mostly Crescent Seedling, which were unusually fine. His Sharpless berries were also very good. The originator of the Sharpless Strawberry reports the crop in his county, Columbia, to have been the most complete failure for many years, on account of heaving. JAMES TURNER of Crawford county, gives this opinion: "For all kinds of soil the Crescent comes first; then Downing and Sharpless." As to Raspberries, the Cuthbert is recommended by a number as the leading red variety, and Souhegan and Gregg among "black caps." In many localities Raspberries and Blackberries were winter-killed. Very few correspondents reported in regard to Currants. This fruit was scarce in the southeastern counties and commanded

high prices. The stalks were greatly injured by slugs and worms, and in some sections almost destroyed.

VEGETABLES.

This important branch of horticulture is receiving greater attention, and farmers, as a rule, give more importance to the kitchen garden. It now comes in for its proper share of farm work, and is no longer committed to the sole care of the female portion of the household.

SHRUBBERY, PLANTS AND FLOWERS.

It is gratifying to be informed by correspondents that there is a growing inclination throughout the State to improve grounds and dooryards by the planting of shrubbery, creeping vines and shade and ornamental trees. Floriculture is also increasing, and greenhouses in the rural districts are no longer unusual. In referring to this commendable feature, the members of the General Fruit Committee use expressions like the following, which have been culled from the sub-reports: "Marked improvement, especially in flowers." "Lawns about the houses are being improved, and annually a great many new things are planted." "Our people are beautifying their homes, this being particularly noticeable in our town." "Progress in floriculture quite noticeable." "In looking back over the last thirty years the progress in this line is wonderful, and is increasing yearly." "There has been more special interest taken in shrubbery, flowers and greenhouses during the year just closed than ever." "Taste in the decoration of grounds increasing." "Our people are gradually making advances." "The cultivation of shrubbery, plants and flowers is increasing." These are but a few of the statements of correspondents in regard to this branch of the association's work. The celebration of "Arbor Day" is another beautiful observance introduced in this State, which, it is hoped, may be perpetuated. It is developing a taste for tree planting, and especially among school children. Through its kindly influences, every school yard will, in a few years, be provided with grateful shade, and every man of prominence will have some tree named after him by the school children of the State. The pupils of the public schools will also acquire instruction through the planting of trees,

and will learn that nothing valuable is to be obtained or preserved without labor, care and attention.

In regard to the obstacles which fruit-growers encounter, Vice President HENRY M. ENGLE writes: "There are many drawbacks to fruit culture, but the greatest are want of proper fertility of soil, and insect depredations. Other things being ever so favorable, the watchword must be counteract the insects if you want sure crops. This does not refer to fruits only, but to most vegetables as well, and we know of no better method than that practiced successfully by some in the different States, viz.: Kerosene emulsions, and mineral poisons, the latter applied judiciously."

A. L. MCKIBBIN, of Beaver county, member of the State Board of Agriculture, reports in regard to the subject of insect pests: "Our people have become greatly discouraged on account of the ravages of the rose bugs. For the past two years these insects have devastated whole communities, destroying all fruits, save Pears, Quinces and Plums, and taking entire fields of Strawberries and Raspberries."

HENRY W. COMFORT, of Bucks county, recommends the application of potash to Peach trees, to secure the best results. He uses muriate of potash and acidulated South Carolina rock.

HENRY C. SNAVELY, of Lebanon, writes in regard to his Peach crop of last year: "I had a fine crop of Peaches; the best, in fact, that I grew yet. Even trees that I was afraid had overborne the previous year made an excellent crop of fruit. I have abandoned the use of yard manure in my Peach orchards, and use kainit and ground bone, and I think with beneficial results. The trees are more exempt from disease, and the fruit is of finer quality." Mr. SNAVELY also uses nothing but kainit and bone for his Grape vines.

O. D. SCHOCK, of Berks county, observes: "The principal cause of failure in raising Pears, is, in the writer's humble opinion, neglect to properly fertilize the trees. Personal observation has confirmed this."

CASPER HILLER, of Lancaster county, says: "It may be of interest to note that the pear blight that has destroyed two-thirds of the trees during the last twenty years has entirely disappeared from our

grounds. Some of the old trees that were half dead are making new growth." In regard to new varieties of fruit, the same gentleman says; "Among Grapes, Moore's Early, Worden and Pocklington are great acquisitions. The Marlboro Raspberry is the best among all the varieties which we have ever tried. The May King Strawberry has a perfect blossom, and is of better quality, and as productive as the Crescent."

The following are the names of the officers who were unanimously elected for the present year: President, CALVIN COOPER, Bird-in-Hand; Vice Presidents, JOSIAH HOOPES, West Chester; HENRY M. ENGLE, Marietta; E. SATTERTHWAIT, Montgomery; Recording Secretary, E. B. ENGLE, Waynesboro; Corresponding Secretary, W. P. BRINTON, Christiana; Treasurer, J. HIBBARD, Bartram; Librarian, THOMAS J. EDGE, Harrisburg.

A NEW BEGONIA.



BEGONIA LESOUDSII.

A very handsome form of Begonia has lately been introduced into the trade in France, under the name of Begonia Lesoudsii. It is a seedling of Begonia Rex, produced by a cross with the Diadem Begonia. This last variety was described

by a correspondent, and an illustration given, in volume seven, page 330, of this MAGAZINE. For the benefit of those who may not have seen it the illustration is here reproduced, and by means of it and that of a leaf of *B. Rex*, with which latter variety, however, all are familiar, a much better understanding may be gained of



DIADEM BEGONIA.

the effect of this cross. The peculiar white stripe of the leaf, originally found in the leaf of *B. Rex*, is seen to be modified by the spots of the *Diadem* variety, and this is really more so than is represented in the illustration; the form of the leaf of the new variety is also intermediate between those of the two parent plants, and the lobing greatly resembles that of *Diadem*. Our illustration of *B. Lesoudsii* has been prepared from one given in a late number of the *Revue Horticole*, and which was accompanied with a description, from which have been obtained the facts here presented. The ground color of the foliage is generally a shade of bronzed green with pur-



LEAF OF BEGONIA REX.

lish borders, and with large white spaces, forming zones, near which are rounded points and spots of silvery gray. These beautiful leaves well spread out or lightly drooping, are supported by strong stems of a brownish-purple color, and clothed with hairs. The grand size of the leaves, their firm texture, and the vigor of the plant, are qualities of the first order, and cannot fail to make this a very popular variety as soon as it shall be well known. It will probably not be brought out in this country until next year. Its name is not a pleasant one to English ears, and *Rex Diadem* will sound better while it commemorates its parentage.

LILIUM TENUIFOLIUM.

The beauty of the Narrow-leaved Lily, as this variety might be called, is manifest from the plate of it presented at this time. Two characteristics of this plant greatly enhance its value; these are its hardiness, and its tenacity of life. It is a native of Siberia, and, consequently, adapted to cold climates; how well it succeeds in the southern part of this country we are not informed. With us it is a persistent, sturdy little plant which, whenever it has fair treatment in the garden, will hold its own and increase, and yearly produce its beautiful, brilliant scarlet flowers. The plant has a slender, wiry stem, two feet, to two and a half feet, in length, which is furnished with narrow, grass-like leaves, and bears at its summit from four to ten flowers. These are represented in the plate of natural size. The nodding flowers and revolute segments indicate the relation of this species to those of the *Canadense* section of Lilies. The blooming season is in May and June. An average sized bulb of this species will measure from an inch and a half to an inch and three-quarters in length, and is about two-thirds of this length in its transverse diameter. In order to get bloom the first spring after planting it is best to set the bulb in autumn. Spring set bulbs will require all of the season to recover and become established. If the soil is heavy, some sand should be mixed with it before planting, and make a little layer of sand to set the bulb on—this should be five or six inches deep—and cover with sand directly over the bulb. This is one of the most desirable varieties of Lilies, and will not fail to give satisfaction. The flowers are particularly valuable for cutting for vases, and supply a color and brilliancy rarely to be seen. A space of a few square feet set with a number of bulbs gives a fine effect.

OPHIOGLOSSACEÆ OF THE UNITED STATES.

The group of plants shown in the illustration herewith, represents a very small portion of the vegetable kingdom, but one of the most interesting and attractive. The entire Order, of which this group constitutes the greater part, embraces only three genera, which contain not more than twenty known species, and of these all but one belong to the two genera here represented.

The plants belonging to this Order are regarded as Ferns, in popular estimation, on account of their Fern-like appearance and habits; but they differ from true Ferns in so many important particulars that the best authorities have come to regard them merely as fern-allies. The more essential differences may be briefly pointed out as consisting, first, in the different arrangement of the young fronds in the bud (technically termed the *vernation*), and, second, in the different mode of producing fruit (technically termed the *sporangia*).

In all true Ferns the vernation is *circinate*, that is, the young fronds are spirally rolled up from apex to base, and their sporangia are distinct outgrowths from the epidermis; in the Ophioglossaceæ, or false Ferns, the vernation is never circinate, and the sporangia are formed from transformed leaf-tissue.

In the Botrychiums the young frond-buds are enclosed within the base of the common stalk, and each fully matured bud contains within itself a series of buds, one within the other, by means of which the annual growth of new plants is provided for. The sporangia consist of distinct globular capsules filled with spores, each capsule being formed from the transformed tissue of some portion of the segment, or leaf, which is technically termed the *lamina*.

In the Ophioglossums the young frond-buds are exposed outside of the root-stalk, and their sporangia are united into parallel rows, an arrangement which is designated by the term *connate*.

The Botrychiums are commonly known as "Grape-ferns," the generic name being derived from the Greek word, *botrys*, which means a bunch, and as the clusters of sporangia on the fertile branches were thought to resemble little bunches of Grapes, the common name is thus ac-

counted for. They are, also, sometimes called "Moonworts," but this name seems strictly applicable only to *Botrychium Lunaria*, the only species found within the limits of Great Britain, where it is everywhere known as the "Moonwort."

The lunate, or crescent, shape of the divisions of the sterile portion of the frond appears to have suggested some mysterious connection between this plant and the moon, and accordingly we find it associated with all the old superstitions of witchcraft and folk-lore, and the old herbalists full of its wonderful properties.

"There is an herb, whose virtue's such,
It in the pasture, only with a touch,
Unshods the new shod steed."

Although there were not wanting old authors bold enough to declare these superstitions nothing more than "drowsie dreams and illusions," they yet served the Ettrick Shepherd for the quaint lines in which he commemorates the old belief that witches used the leaf of this plant for a saddle when riding on their broomsticks through the air.

"The first leet night, quhan the new moon set,
Quhan all was douffe and mirk,
We saddled our naigis wi' the moon-fern leif,
And rode fra Kilmemin Kirk.

"Some horses were of the brume-cow framit,
And some of the greine bay tree;
But mine was made of ane humlocke schaw
And a stout stallion was he."

Of the nine species of Botrychiums now recognized, seven are found within the limits of the United States, and these are all shown in the illustration. They inhabit a great variety of situations, and, according to locality, some one or more species may be found within the limits of GRAY'S *Manual*, from May to October. They grow from an inch or two (in the smaller species) to two feet (in *B. Virginianum* and the California *B. ternatum*) high, and are to be looked for chiefly in old pasture lands or springy uplands, along stony rivulets, and the borders of low woodlands.

The plants are remarkable for their fleshy texture, stout, cord-like roots, that seem altogether out of proportion to the size of the plants themselves, and their disposition to vary; the smaller species are especially given to abnormal growth and freaks of all kinds, sometimes be-



OPHIOGLOSSACEÆ

Complete for the United States of America.

PHOTOGRAPHED FROM SPECIMEN PLANTS, THUS SHOWING ACCURATELY DETAILS AND RELATIVE SIZES.

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| 1. <i>Ophioglossum vulgatum</i> , L. | 10. <i>Botrychium Virginianum</i> , var. <i>gracilis</i> , Hooker |
| 2. <i>Ophioglossum crotalophorides</i> , Walter. | 11. <i>a.</i> <i>Botrychium ternatum</i> , Swartz—small plant. |
| 3. <i>Ophioglossum nudicaule</i> , L. fil. | 11. <i>b.</i> <i>Botrychium ternatum</i> , sub. var. <i>intermedium</i> ,
D. C. Eaton. |
| 4. <i>Ophioglossum palmatum</i> , Plumier | 11. <i>d.</i> <i>Botrychium ternatum</i> , var. <i>lunarioides</i> , Milde. |
| 5. <i>Botrychium simplex</i> , Hitchcock. | 11. <i>y.</i> <i>Botrychium ternatum</i> , var. <i>obliquum</i> , Milde. |
| 6. <i>Botrychium boreale</i> , Milde. | 11. <i>x.</i> <i>Botrychium ternatum</i> , var. <i>dissectum</i> , Milde. |
| 7. <i>Botrychium Lunaria</i> , Swartz. | <i>Botrychium ternatum</i> , var. <i>australe</i> , is merely a
large form, of which California plants furnish the
best type. |
| 8. <i>Botrychium matricariæfolium</i> , A. Braun | |
| 9. <i>Botrychium lanceolatum</i> , Angström. | |
| 10. <i>a.</i> <i>Botrychium Virginianum</i> , Swartz. | |

coming almost unrecognizable in their strange transformations.

The prevailing tendency seems to be in the direction of efforts to increase fruitfulness, and in some instances, besides producing an unusual number of branches to the fruit-panicle itself, the whole sterile lamina, or what should have been the sterile lamina, becomes transformed into sporangia.

Notwithstanding this extraordinary fruitfulness, the species are seldom found in what might be called an abundance anywhere. The uncertainty attending the germination of the spores, the length of time required for the maturation of a plant, and the accidents liable to prevent even the consummation of growth once started, are sufficient to account for the vast difference between the quantity of fruit and plants produced, and to show that Nature here, as elsewhere, is thus prodigal in order to provide the species with every possible means for maintaining their existence for the longest possible time. Generous, even beyond this prodigality, Nature has still further provided the Botrychiums with the means for prolonging their existence, in the character of their veneration. This has already been pointed out, and is referred to again here only to say that in this character we have one of the best and most reliable means for determining doubtful specimens.

The life history of a Botrychium, as studied from observations on *B. Lunaria*, is here summed up from HOFFMEISTER'S masterly work on the Cryptogams.

Germination from the spore takes place under ground, and results in the production of a flat, leaf-like expansion (technically termed a *prothallium*) from the under side of which roots grow downward, while on the upper surface specialized organs are produced which give birth to the germ-plant. The germ-plant in the first stage of its existence consists of a simple globular knob, containing a small bud. During the two succeeding seasons of vegetative growth the germ-plant continues its development under ground, but in the third year of its existence it emerges as a diminutive plant, and thereafter continues its growth above ground, increasing in size from year to year, and providing for its own annual renewal by the formation of

buds containing embryo plantlets. These buds are formed within the rootstock and gradually grow upward into the hollow base of the common stalk. They are arranged one above the other in such a manner that when the upper and oldest bud rises above ground another rudimentary bud is formed below the remaining two, and the complement for three successive season's growth is thus kept always complete.

In cultivation this power of producing buds appears to become arrested, and it is probably owing to an exhaustion of bud-producing power that plants seldom survive more than two years.

There are not wanting those who consider the Botrychiums parasitic in their nature, and if this could be proven to be the case it might further explain the difficulty experienced in attempting to transplant and cultivate these interesting plants.

The Ophioglossums are known as Adder-tongue Ferns, on account of some fancied resemblance to the tongue of an adder. The generic name being derived from *ophis*, a serpent, and *glossa*, a tongue. They possess many characters in common with the Botrychiums. Their roots consist of stout, cord-like fibers, but the rootstocks proper vary more than those of the Botrychiums. They are sometimes erect, sometimes tuberous, and sometimes bulbous in shape. Matured buds contain a similar series of rudimentary buds as the Botrychiums, but they are never enclosed within the base of the stalk as in that genus, and sometimes adventitious buds are produced on the roots at some distance from the rootstalk. The fronds are fleshy in texture, and are either developed singly, in pairs, or in clusters. The veins unite and form a beautiful reticulated net-work.

Some of the species are epiphytal. *O. pendulum*, a foreign species, is so called on account of its growing on the bark of trees with a drooping habit. *O. palmatum*, one of the rarest of all known plants, and a recent Florida discovery of the veteran botanist, Dr. CHAPMAN, grows in the axils of the leaves on old Palmettos. The two smaller species are tropical or semi-tropical in character, and are found only in some of the Southern States or in California.

O. nudicaule, the smallest species, has been found in considerable abundance by Dr. PARRY, Mr. CLEVELAND, and others, growing in the sandy soil of San Diego and Lower California. Some specimens from that region are hardly distinguishable from the lesser Adder-tongue of Great Britain, which is described as a distinct species. *O. crotalophoroides* furnishes one of those instances in which one is led to regret that the inexorable law of priority should compel a most appropriate name to give way to an older but less appropriate one. MICHAUX's name of *O. bulbosum* so exactly expressed the one special character of this little plant, and had been in use for so long a time that botanists will ever regret the arbitrary necessity which compelled them to abandon it for the less significant and more difficult name of Walter's.

O. vulgatum is the common and only species found within the limits of GRAY'S

Manual. It is found oftenest in low, moist meadow lands during the months of July and August, and thus being in a state of perfection during the mowing season is liable to be cut down with the scythe, and so give rise to an impression that it is less common than it probably really is. Like the Moonwort, it is associated with all the superstitions of witchcraft in Great Britain, and credited with marvelous properties. It is doubtful, however, if these plants, or the *Botrychiums*, possess even the most ordinary medicinal virtue, but, nevertheless, there is a strange fascination about all the members of this group of plants that will tempt a botanist to devote more time in searching for them than for almost any other plants known; and as the difficulty of finding any of the rarer species increases, just in that proportion will the finding of it yield a corresponding degree of pleasure.

GEO. E. DAVENPORT, *Medford, Mass.*

IMPROVEMENT OF HOME GROUNDS.

Just how to improve a dooryard in accordance with modern landscape gardening ideas, is a mystery to many who would gladly do it if they knew how to go at it. To give some sort of an idea on the subject, I subjoin some designs and hints. Fig. 1, represents a dooryard of the larger size, planted after the old style of placing a tree or shrub wherever there was an opening, until it is so filled up that there is hardly room to pitch a small shelter tent, or swing a scythe. In size it is seven rods in width, by twelve in average length, and in position of buildings and manner of gaining entrance is the counterpart of many that I know of, while the principles that should be followed in planting, are such that they can be used to guide in the planting of places differing widely in form from the one under consideration. Plans of this character are more especially adapted to country places, where there is little use for a walk to the street—going and coming being mostly by carriage.

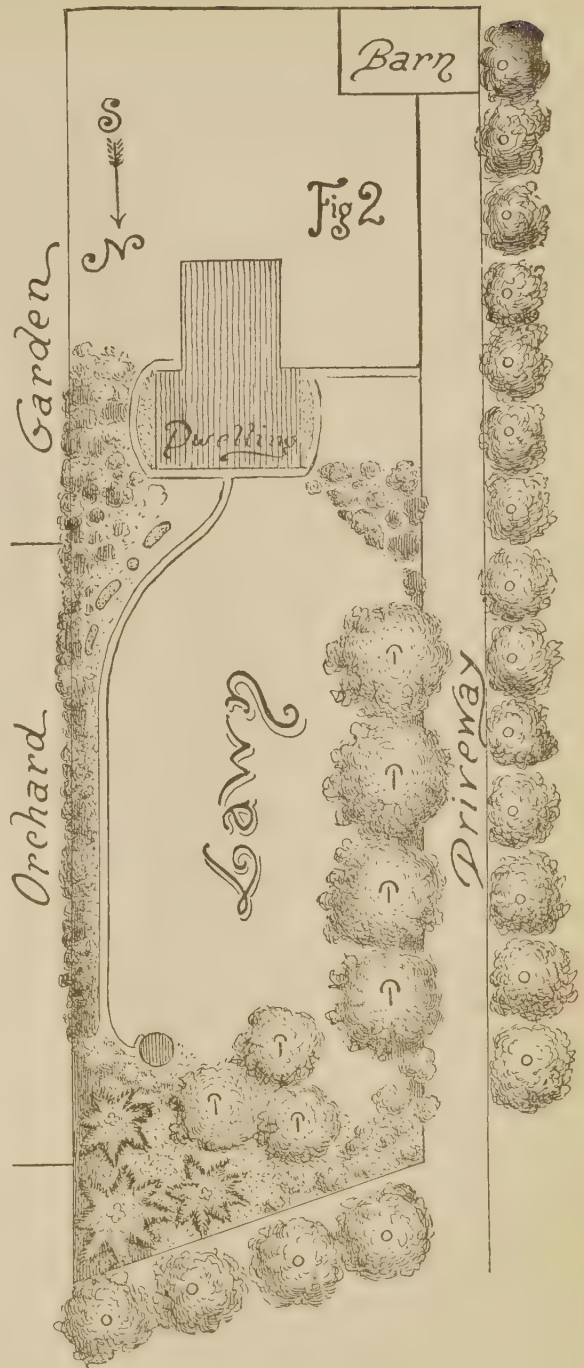
By reference to the plan, it will be seen that the drive skirts the western edge while an orchard bounds the eastern side. The farm buildings—carriage house, barn, etc., and garden are to the rear as they

should be, in any well ordered farm arrangement, and nothing is lacking to make an almost perfect place, but a judicious planting of the commodious front lawn. The end proposed is to change a cluttered, crowded mixture of trees and shrubs, without character or beauty, into an open lawn of nearly one-half acre—easy to mow and handsome to look at—surrounded by a border of ornamental trees, whose individual beauty is enhanced by their proximity to each other, and by their relation to the lawn, thus making a pleasing and attractive picture.

To do this in the cheapest and most satisfactory way, will require about five years. The old lawn has a number of the most beautiful shrubs known, such as Purple Fringe, Weigela, Snowball, Tartarian Honeysuckle, Syringas, Altheas, and Spireas; in variety; but these having stood a long time in one place, and reached a mature age, cannot be moved with a reasonable hope of preserving their value as vigorous blooming plants. So, instead of trying to transplant these ancient bushes we layer some of the branches of each, and in two years for the Fringe tree, and one year for the others, we have nicely rooted plants that



GROUND OF THE FARM HOMESTEAD,
BADLY PLANTED.



THE SAME GROUNDS,
IMPROVED.

may be transplanted the following spring into a row in the garden. Here in three or four years if given good cultivation they will develop into thrifty, bushy, well-formed plants, three or four feet high, with an abundance of vigorous working roots.

If other kinds are wanted they can be ordered from a nursery at one year old, and put in the garden row at the same time. So with the evergreens that are

going to be wanted. Purchased at one foot high, the cost is but a few cents each, and by planting and cultivating for four or five years, they will be as good as trees of the same size costing from four to ten times as much. There will be another great advantage in growing these shrubs and trees on the place, they can be transplanted without shaking off adhering soil, and with little loss and no drying of the roots. This will equal one or two

years' growth, for many of them will not be checked in the least. When every thing is ready, say in the autumn before fifth spring, we grub up the big evergreens before the front door, and all the scattering rosebushes, and shrubs, then plow up the rough sod, manure, give thorough tilth, harrow and rake, and leave until spring. In the spring we fill all the depressions caused by settling, rake again, and after sowing to bluegrass and red top, proceed to plant the trees and shrubs which by this time should be of a size and form for an immediate effect. In the northeast corner we will plant a Norway spruce, flanked on either side by a Nordmann's Fir, or a Balsam Fir, if the other cannot be obtained, on either side of these we plant three American Hemlocks in triangular form, placing them so they partially hide the firs which will shoot up behind them and present a beautiful spiry top long after the lower limbs have vanished along the orchard fence; from the Hemlocks toward the house we will plant a Hedge of Hemlock—which is beautiful summer or winter—American Arbor Vitæ or Japan Flowering Quince. This hedge is designed to hide the orchard below the tops, which appearing either in bloom or fruit, will present above the hedge a pleasing picture without being marred by the sight, of the naked stems and the untidiness, so often allowed in orchards.

Beyond the orchard and just opposite the house, is the garden separated by a peice of ground twenty-five feet wide, devoted to uses in connection with the house and farm. On several accounts it is desirable to screen this from the front lawn, so we will plant a triangular group of evergreens composed of Hemlocks near the orchard, and Dwarf Evergreens for the rest of the group.

These can be Siberian Arbor Vitæ Swedish Juniper, *Retinispora plumosa* *R. plumosa aurea*, *Thuja pumila*, and the Dwarf Swedish Juniper.

The smallest should be nearest the house. On the northwest corner we will plant a portion of the shrubs in such a form as to aid in the general oval outline of the lawn planting, the rest near the corner of the house opposite the dwarf evergreens. These shrubs near the house should be of the rarer and smaller kinds, and they form a separation between

the side yard and the main lawn. The side yard between the drive and house has been devoted to flower beds and still may be, but instead of making them of a miscellaneous character as heretofore, we will fill them with choice bedding plants, while the Chinese Pæonies, the Dutchman's Breeches, and Columbines will be planted in the edge of the Dwarf Evergreens. The high Larkspur, the Double Hollyhocks, the Castor Bean and the Oscar Wild Sunflower we will group together down by the big Evergreens. We can flank the shrubbery near the gate with a bed of double Zinnias and mingle Pomponé Dahlias and Chrysanthemums among the shrubs at the house corner. Full grown Maples skirt the sidewalk, and to these can be added inside the fence a group of three trees consisting of a Liquidamber, a Weirs Cut-leaved Maple, and a Weeping Cut-leaved Birch, while we plant four or five Horse Chestnuts in a row just east of the drive way, and on the outer side of the drive we may plant a row of hardy Catalpa, or European Linden, from the road to the carriage house.

We now have an open lawn with more of beautiful trees and shrubs than it contained before, yet none are in the way of each other, or of the mowing machine, each shrub and tree not only has a chance to display its own beauty, but in many cases furnishes a background that enhances the beauty of what is just before it.

The paths need no explanation other than that the one that skirts the eastern side of the lawn and finally passes behind the Evergreens, is a convenient way to a near neighbor's and affords access to the various flower beds.

In the narrow strip of lawn between the walk and hedge, additional flower beds, single rare specimen shrubs, or groups of herbaceous perennials can be placed.

And, now, in closing, it occurs to me that some one may desire to know how it is that trees or shrubs can appear better in a close group than singly. I can at this time only answer briefly, that it is, that by planting the highest growers behind the smaller ones, we are enabled to see both, just as we see all the faces in an opera house: by the same means we are able to economize room, as for example, by planting an *Althea* behind a *Weigela* and

a couple of *Yuccas* and a *Deutzia gracilis* in front, we use only a trifle more room than the *Weigela* alone would take, as the *Althea* grows mostly above, and the

others below the *Weigela*. The relative sizes of shrubs, and details of grouping, forms an interesting study, and may be treated of at another time. L. B. PIERCE.

FATHER KIMBALL'S OBSERVATIONS.

Is anything more interesting to young fruit-growers than to be favored with the discourse of an old and ardent horticulturist? Such an one, for instance, as Father KIMBALL, at the Presbyterian Ministers' House, in Perth Amboy, who, in his 95th year, plants, prunes and cultivates his own fruit in the great rich garden of the place, with the enthusiasm of twenty-one and the observation of seventy years practical culture. With preaching and teaching he has always carried the love of gardening, which every minister ought to have as the best relaxation from theology and literature, and the best inspiration for both. By four o'clock summer mornings, the veteran is out of doors, playing his flute, or dusting his Currant bushes, vigilant and interested as a school boy. He began budding trees in 1808, and has grafted Apples, Pears, Quinces, Plums, Cherries and Prunes. At one time, for a change, he went about grafting orchards for employment, making a good deal more than most churches pay their ministers. What would be more desirable than a consulting orchardist who would go to inspect orchards, and would set them right for a fair price! If I could hire a man now for my home orchard, to get out the borers, and take care of the boughs smitten with pear blight, and wash the trees with soft soap lotion, physic the orchard and put it in order it would be worth money. But there doesn't appear to be a man in the region who would do the work any better than I can—not saying much for either side—and I must go home to wire for grubs, and work those mal-formed Grape vines into shape, and baste forty trees with soapsuds or lose the orchard. I quite believe what all the New England growers tell me, that what a culturist cannot have done to his grounds by his own family, stands poor chance of being done to his liking or done at all, since labor has grown too toploftical to put hand to spade or besom with anything like intelligence.

Behold me at the feet of this GAMALIEL of horticulture at every opportunity, with thirsty ears, drinking in his experience; and what a favor that he likes to talk of culture almost as well as this DESDEMONA to listen. Likewise, having a conscience which forbids my keeping good things to myself, I share them with those who love to learn of orchard lore.

Grafting on Cherry, Plum and Prune, says Father KIMBALL, should be done early as it is comfortable to be about in the orchard, March in New Jersey, or April in New England. Apples and Pears can be done later. He has even grafted with a budding and blooming scion, as a trial of skill, and had it do well. The season itself may defeat the best work in grafting, as when a dry, hot spell follows the setting of scions in good calendar time, and dries the cuttings before they can strike. In such case, would it not be well to water the bark freely, or wrap wet moss about it to prevent parching?

Some things can be done as well as others, was always my motto in gardening, and Father KIMBALL illustrates it in the valuable tree girdled by mice, a foot from the ground, which he saved by grafting leaders or scions lengthwise across the bare ring into the healthy bark above and below. It must have been nicely done, as a surgical operation, for it grew sound bark all over the wound by autumn, and the tree bore next year as usual. He tells of a tree so girdled astonishing every one by its immense crop of flowers and fruit the same year, and flowering the next, but when the Apples were the size of bullets it gave up the effort and died. The girdled bark prevented the circulation of sap from the top to the roots. The overplus of sap in the branches led to a great crop and growth of fruit buds for the next year, but the roots had no vigor stored to meet any farther demand, and the tree died of starvation.

Strolling down to the garden, Father

KIMBALL'S eye caught sight of a Pear tree growing in that tiresome way Pears have, like a nearly closed umbrella, the straight branches crowding as close as they can grow. "That ought not to grow so," he said. "I put spreaders in my Pear trees to force the branches to grow out from the trunk—pieces of wood notched at the ends to fit between the branch and the stem. Trees will not bear with the straight, thick growth." That is a hint I prize highly, for a prim, tall Pear tree which declines to bear is ungainly as well as unprofitable.

"When an Apple or Pear begins to yield is the time to secure annual crops of fruit. When ready to blossom, select half the boughs and remove the flower buds from them, with finger and thumb, and these will set full of fruit buds and bear handsomely the next year. The tree keeps up the habit afterward, bearing on alternate branches yearly, and unless frost destroys the blossoms you will never fail of a good crop."

Yes, and will not this method produce larger fruit and prolong the vigor of the tree by disbudding in this way? I speak for a reply.

"Look here," says the veteran, pointing out the short fruit spurs direct from the main branches, "these bear the best fruit on a tree, and will keep a month longer than specimens from the longer branches. The fruit will not be so large, but it is finer and keeps best. I took lawyer TAYLOR some Yellow Bellflowers grown so, and I told him those were not the largest size, but let him take care of them, for they would outlast the others, and, next year, he says to me, 'I want Apples of the same sort you sent me last year. They were the best of all.'"

We sauntered along, with an occasional stroke at a Dock or Mallow in the way, for the garden knife was in my hand, and those hands were soiled with weeding the long Hybrid Perpetual Roses. It was the 3d of November, hazy, mild and the air like purest wine for enjoyment. Such strolls on such mornings, are the culturist's delight, watching the steady, significant change of leaf and bough about them. The Chrysanthemums were brilliant, the great bed of Rose Geraniums, fresh and fragrant, the Verbena and Phlox beds yet gleamed like jewels, and the Tea Roses, pale pink

and straw, were full of bud and red young shoots, one beauty of these Roses independent of their bloom. We made our way from these to the Currant corner, where I cried out at the sturdy little trees studded with fruit buds as thick—well, thick as you ever saw a spur with aphides. Is there a more graphic simile?

My VIRGIL of this garden paradise led the way to a bush fully an inch through in the main stem, with branches nearly as large, with excellent promise for next year. "That bush was a single, rooted cutting, set out two years ago. I train them in the English fashion, as you see, and on one bunch I counted twenty-seven ripe Currants. I often find twenty-three or twenty-four on a bunch, but this was the largest." It does seem better to grow more Currants than bush, especially as the worms trouble them less. In this shape the worms don't find such good close places to make their nests. Pruning and strong growth are foes to insect work.

The trellises, with their twenty-three varieties of Grapes, drew our tardy footsteps, and I had, for the first time, a practical lesson on training vines. If women only knew how far more interesting fruit culture on such golden mornings can be than the incessant cares of dress, I am afraid we should all go in plain clothes. Mr. KIMBALL decried the common German method of pruning Grape vines, which leaves a stump a foot through, with many canes starting from it. "From my observation," he said, in his persistent, modest way, "I judge the Grape cluster draws for its forming not only on its own branch, but on currents that extend far beyond. I was pruning a vineyard near Rochester, where the proprietor had the vines cut down to the stump, when a good, sensible German woman came along who had been through the Johannisburg, Prince METERNICH's, vineyard, and she told us the Grapes there were grown in shade, and the vines not cut so close. The owner said, leave one trellis without pruning and try the experiment, and the finest, richest Grapes in the whole vineyard were on those vines. I was pruning for PIXLEY, one time, and he was cutting one way and HENRY ADAMS another, and I asked PIXLEY, which bore best?

Well,' says he, 'ADAMS' has the biggest clusters that sell for most in market, but my vines make the most wine.' You see, PIXLEY left more canes but cut close, while ADAMS had only three or four canes to a stump, but each of them four feet long. So I learned something from that." How distinctly, yet gently, the words come again—"the vine wants

to grow in sunshine, but the Grapes should be grown in shade."

There is a sure method of proving all systems, and I'm going home to try short pruning and long pruning, hoping, sometime before the age of ninety-five, I, too, may be able to decide "from my observation."

SUSAN POWER.

CACTUS.

This curious species of plants has its many lovers and haters. For a real *bona-fide*, good, dispositioned plant, give me a Cactus every time. The plants seem so little trouble, and even if they do not bloom, are queer enough to attract a great deal of attention and admiration from many persons. But when they bloom, the possessor of them is generally envied by the whole circle of flower lovers. The length of time it takes for a small plant of this family to bloom, is probably against it, as some grow impatient of the long waiting; but "patient waiting no loss," is really true in this case. One blossom from some varieties will, in my estimation, pay for the care and trouble of years. One of the flat-leaved varieties, with large, brilliant scarlet blossoms, bloomed for me four times the past summer. Many other varieties bloomed twice. Of the varieties for summer bloom, I kept the pots plunged in a deep box of earth, deep enough to reach to the top of the pots, and when the sun became too scorching I moved them to more shady quarters. My experience has been that an intensely hot sun will cause the branches to decay. The method I employed of shading them secured to me

very healthy plants without the least sign of decay. While out of doors I only watered once, and that was in the time of three months' drouth. Plants of this class seem to store up in their fleshy branches enough moisture to enable them to endure a great season of dryness.

One of the varieties for winter bloom, *Epiphyllum truncatum*, must be kept very dry during summer, indeed, the leaves may be allowed to shrivel, in September begin to water, gradually increasing, and before Christmas every little "claw" will burst forth into a charming flower. I do not believe in being stingy but, truly, if you want to succeed with Cactus, you must refuse your friends and all their relations "slips." You pluck away the bloom, I think, and retard its growth by so doing. Give freely of your Geraniums, Coleus, &c., but hold the Cactus in reserve. Disturb them in pots as little as possible, even when you are obliged to repot be careful of disturbing the roots. In winter you may store the summer varieties in a warm closet, if you have no window for them, but those who love them like to see them all winter. Some of the commoner sorts may be wintered in a dry, frost-proof cellar.

M. R. W.

THE CARROT.

The Carrot, like all other root crops, delights and grows to great perfection in a deep, well enriched, light, loamy soil, and as it is said to be one of the most healthful and nutritious of our garden roots, it deserves on this account, to be more extensively used for culinary purposes. It delights in a deeply tilled, sandy loam, one that has been given a good dressing of well decayed stable

manure, and this should be thoroughly and deeply incorporated with the soil by means of the plow, and afterwards a thorough harrowing be given so as to finely pulverize the ground, and level it off nicely. The seed should be sown in shallow drills about sixteen inches apart. It is best to sow early in the spring, just as soon as the ground can be properly prepared, but if the sowing is necessarily

delayed until later, it is advisable to soak the seed for twenty-four hours in tepid water, and then dry it by mixing with dry, sifted ashes, when it may be sown. If the ground is dry at the time of sowing it is advisable to firm it well over the seeds, in order to insure a quick germination. This firming can be readily done by treading down the drills with the feet, and if necessary levelling it off nicely with a rake, so that it can be more easily hoed. As soon as the young plants are well up, so that the rows can be easily distinguished, a slight hoeing should be given, and when the plants are strong enough to handle they should be thinned out so that they will stand from three to four inches apart. After this, all the cultivation they require is to be thoroughly cultivated and to be deeply and frequently hoed until the approach of cold weather, when the roots should be carefully taken up and the tops trimmed off within an inch of the crown; then they can be placed in a dry, cool cellar and covered with sand until wanted for use. The roots will be

greatly improved in all respects if they are placed in ice cold water for a few hours previous to using them.

An ounce of seed will sow one hundred and twenty feet of drill, and of the several varieties in cultivation the following are the most desirable for amateur cultivation:

Early Scarlet Horn. This is the earliest variety, having top-shaped roots which taper abruptly to a small tap; they are of an orange-red color, having an indistinct yellow core.

Half Long Scarlet Carentan is an excellent intermediate, maturing between the Scarlet Horn and Long Orange. It is of the medium size and has no distinct core.

Long Orange is well and favorably known as a standard sort. The long roots, which are thickest near the crown, taper gradually to a point. It is of a deep orange color, and when well grown a grand variety for exhibition purposes. To do this variety justice the plants should stand at least five inches apart.

CHAS. E. PARNELL, *Queens, N. Y.*

IN SPRING.

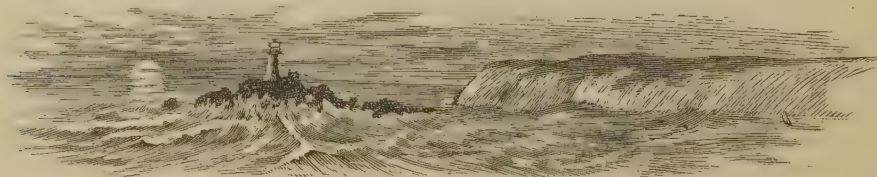
Spring comes. I hear her on the hills, to-day,
Where wild March winds among bare branches play
Their elfin music, and my heart is light,
Because I hear her feet in fairy flight
Trip o'er the fields. Where'er her footsteps fall,
The white drifts fade and vanish by the wall.
Hints of a nearing April come to-day,
And warmer, more delicious hours of May,
When to be living is a joy intense.
Spring holds her court by any wayside fence—
In sunny haunts beside the happy brook—
Or in the quiet of some meadow nook.
There shall we find, on some not far-off day,
Her maids of honor, decked in fine array,
Holding high carnival. There we will see
The Wind Flower, nodding to the wandering bee;
Wake Robins will be there in pink and white,
The gayest of them all, a goodly sight;
And Violets, dainty darlings, fair as shy,
Will greet us with a smile as we go by;
And we shall feel the Arbutus' witching spell,
But where its blossoms are we cannot tell
Till we search for them under last year's leaves,

And find the broidery the flower weaves
Upon the garments of the spring, in tints
So delicate, so vague, they seem but hints
Of color on each petal. Everywhere
New life, new joy. Let us forget all care,
And with the flowers be glad in time of spring
Let the heart soar, as the birds do, and sing
In joy of life and living. Flowers shall grow
Beneath the dead leaves in our hearts, and so
Shall they be bright with bloom and sun once more,
When winter's dream of dying things is o'er.

Remember, heart, when life's dull winter's here,
And hides away the blossoms of its year,
As the flower sleeps beneath the mold, so you
Shall sleep and dream a dream that will come true—
A dream of gladness under sunny skies
To break in beauty on bewildered eyes,
In the glad April-time of Heaven. O, heart, know
this,

What April is to earth, Heaven to God's children is.

EBEN E. REXFORD.





Anthony

FOREIGN NOTES.

LAVENDERETTE.

Those who raise Lavender and prize it for its fragrance, may be pleased to see the following mode of using it, as described in the *Gardeners' Chronicle*. A novel way of utilizing the sweetly scented Lavender flowers is shown in the annexed illustration. An uneven number of flower spikes with long stems are tied together with very narrow ribbon, as close as possible under the spike. The stalks are then turned back over the flowers, and the ribbon woven in and out, like basket-work, till the whole of the flower spikes is covered up. Loops of the same ribbon are twisted round the stalks to keep them in place, and a similar cluster finishes off the tip. The Lavender emits its perfume through the meshes of the ribbon, and the Lavenderette may be laid about without any untidy scattering of the flowers, generally a great drawback to the use of dried Lavender:



AZALEA DEUTSCHE PERLE.

A great future is before this new Azalea, and the old *Narcissiflora* and *Fielder's White* will have to give way to it. It will, of course, take some time for the variety *Deutsche Perle* to come into general cultivation, but its popularity is ensured, as the flowers are of the purest white, quite double, produced freely, and have a firm, handsome, well formed petal. It seems likely to become a favorite with growers for market, and all who require choice decorations should certainly grow it for supplying cut flowers during the winter months. One of its great points is its adaptability for early forcing. Its flowers can be had at Christmas, and earlier if a proper succession of plants is maintained.

H. P., in *The Garden*.

FLOWERS IN NATURAL COLORS.

The following is Dr. SCHÖNLAND'S method of drying flowers, as described in the *Gardeners' Chronicle*:

Take two pints of a saturated solution of sulphurous acid in water (which can be had at any chemist's, and is very cheap if bought in large quantities); add to this one pint of methylated spirit. Keep this mixture in a wide-mouthed bottle, which should be so tightly closed that the contents do not evaporate when not in use. Leave ordinary flowers in this mixture for about ten to twenty minutes; inflorescences of *Bromeliaceæ* and *Aroideaceæ* must be left in it about one hour. In most cases the color will completely disappear, but it will gradually return during the process of drying, or even after the plants have become apparently quite dry. Having treated the specimens with the mixture for a short time, as stated above, take them out and shake off the adhering drops of fluid. Leave the plants in a dry, warm place, in order to dry them superficially (they must not be allowed to shrivel), and then dry them in the usual way, between blotting papers. If artificial heat is used in the latter part of the process, excellent results are obtained; and it is not even necessary to change the drying papers. If hot-water pipes are available, it is very convenient to place on them the bundles containing the plants to be dried, which need not be subjected to very great pressure. As it is sometimes difficult to prevent flowers from collapsing, when using this method of preservation, and as often, it is almost impossible to spread out those flowers when they have collapsed, I often put them loosely between sheets of vegetable parchment before immersing them in the fluid.

GOLDEN-LEAVED POPLAR.

Ornamental tree planters should make a note of the *Golden-leaved Poplar* (*Populus Van Geerti*), as it is very effective when associated with other trees. Sometimes occasion requires that quick-growing trees must be planted in order

to hide some object. One, or at most two trees of the Golden Poplar introduced among them will tend to relieve the otherwise monotonous appearance which a group of Poplars (particularly the Black Italian) has. The foliage of *P. Van Geerti* is of quite a yellow tint, which lasts throughout the summer, and is not affected by the sun, as some other golden-leaved trees are.

W. G., in *The Garden*.

ORCHIDS FOR THE HERBARIUM.

A solution of one part salicylic acid to fourteen parts of alcohol applied by moistening pieces of blotting paper and placing them above and below the flowers in the press, or by wetting absorbent cotton and putting it in and about the flowers, forms a simple method, according to the *Gardeners' Chronicle*, of preparing Orchids for the herbarium.

SEEDLING ROSES.

Every advance in the way of fragrance should be carefully noted and jealously preserved. It may be true that a Rose by any other name would smell as sweet, though I doubt it. But a Rose that does not smell at all is hardly worthy of its name—in fact, little better than a gay imposter—while those that smell something like semi-putrid water or bad meat—Queen Flora, forgive the comparison—should be rooted out and destroyed. Were our raisers of seedlings as intent on new odors, and the enriching and deepening of old ones, as they have been in spreading out the petals like pancakes, or heaping petal on petal until, through their prodigality, promising blooms have been wrested in dire confusion, or their hearts hardened into frightful abortions,

then, indeed, would our roseries, out of doors and in, have been infinitely sweeter than they are to-day.

D. T. F., in *London Garden*.

VINE CULTURE IN FRANCE.

A correspondent of the *Revue Horticole* writes as follows:

On the left bank of the Isère, a few miles from Tullins, there is a garden where there is an Isabella vine planted some twenty or twenty-seven years since. Its arms are extended horizontally upon a wooden trellis, and cover a space of about two hundred square metres (about two thousand square feet). The circumference of the stem is twenty inches at a height of eight feet. In 1887 this vine produced four hundred and fifty-two litres of wine (about one hundred and twenty gallons). The wine was only of a rose color, but of good taste, a little acid and of an agreeable piquancy. If the quality was such that something better might be desired, it was not so with the quantity. From the new varieties (American) which are beginning to be planted here some good results will undoubtedly be obtained. The *Senasqua* will do well for the plains, and for the hillsides the grafted plants will enable the havoc caused by the phylloxera to be repaired by supplying the preferable qualities of wine.

PRODUCE OF FRENCH VINES.

The French government statistics give the estimated quantity of wine produced from the vineyards of that country in 1887 as 24,333,284 hectolitres. This is 730,000 hectolitres less than the produce of the preceding year, and 10,664,000 hectolitres less than the mean of the last ten years.



PLEASANT GOSSIP.

HORTICULTURAL MEETING.

The Western New York Horticultural Society held its annual meeting in this city, on the 25th and 26th days of January last. The President, in his address, reviewed the past season as it affected horticulture. He expressed the hope that improvement may come to horticulturists from the meeting now being held in different parts of the State under the name of "Farmers' Institutes." "Improvements," he said, "have already arisen from experiments tried in the farmers' interest. The appropriations throughout the country from the government are liberal, and the encouragement offered by it to farming experiments is good. We may well encourage ourselves on the hopeful outlook for horticulture all over the country."

As the President, Mr. P. BARRY, was not present, his address was read by his son, WILLIAM C. BARRY. At the conclusion of the reading a presentation was made to the President of a very handsome sterling silver, gold-lined épergne, or standard fruit dish. The presentation, on behalf of the society, was made by Mr. JOHNSON, in a pleasing, short address, in which, among other remarks, the speaker said that "a large share of our success in the past is due to President BARRY. He has always been ready to sacrifice his personal comfort to the welfare of the society." Mr. WILLIAM C. BARRY accepted the present, and made a very appropriate response in behalf of his father.

The attendance at the meeting was quite large, and a lively interest was manifested by all the members. The reports from the different counties were full of interest; a number of valuable papers were read by experienced horticulturists, some of which will be found in our pages of this and succeeding months; the discussions of the members brought out many valuable statements of experience that were eagerly listened to.

One of the most important matters of business considered was the question

which, now, for the third time, at its annual meetings, had been presented to the society, namely: "Would the interests of horticulture in this State be best promoted by making this a State society, holding quarterly meetings through the year, at various parts of the State, one of which should be its annual meeting to be held in Rochester?"

After a full discussion of the subject, Mr. BARRY moved that the officers of the society be empowered to make the necessary changes, and have the society incorporated as the "New York State Horticultural Society," and that the State Legislature be asked to make an appropriation of \$2,500 for the purpose of paying for printing reports, paying secretary's salary, deficit, etc. This motion was passed, and a committee, consisting of the President, the Secretary and the Executive Committee, was appointed to secure the necessary legislation thereto.

Some very fine specimens of fruit appeared on the tables, there being nine exhibitors. ELLWANGER & BARRY showed thirty-seven varieties of Pears, three of Apples and nine of Grapes; P. BARRY, six varieties of Pears; S. D. WILLARD, of Geneva, twelve varieties of Apples and one of Pears. J. M. MACKIE, of Clyde, showed the Twenty-ounce Pippin; JOHN C. FLEWELLIAN, of Merritt's Corners, the Welsh Apple; SMITH & KERMAN, of St. Catharines, Ontario, the Princess Louise, a seedling of the Snow Apple. This is a very handsome, smooth fruit, medium to large size—oblate, varying to oblong—obscurely ribbed; stem medium length, in a smooth, deep cavity; basin smooth, open; color a bright straw with a bright crimson cheek, which often covers a large portion of the fruit.

An anonymous exhibitor showed a fine specimen of the Shiawasse Beauty Apple; S. W. MILLSAUGH exhibited a basket of the Empire State Grape in fine condition; the Niagara Grape Company, several dishes of the Niagara Grape.

Of the Pears on exhibition, the best of those fully ripe and mellow were Anjou,

Beurre Gris d' Hiver, Clapp's 64, Easter Beurre, Josephine de Malines, Lawrence, Sieulle and Winter Nélis.

Beside the Empire State Grape, already mentioned, the others in good condition, and which were in ELLWANGER & BARRY'S collection, were Eumelan, Wilder, Catawba, Merrimac, Gaertner and Barry; Brighton, Lindley and Iona, shown in the same collection, were in a failing state, Niagara, as presented by the Niagara Grape Company, had, in a measure, lost its flavor, and the berries rattled easily from the stems, though they were plump and made a fine appearance.

The old officers were re-elected, and the society adjourned after a session of two days.

NOTES FOR THE MONTH.

Hot-beds should be sheltered from winds as much as possible. Do not neglect to screen them, by some means, on the windy side

Sow in hot-beds seeds of Cabbage, Cauliflower, Celery, Egg Plant, Lettuce, Radish and Tomatoes. Plants of any of these that have been started previously in the house, can now be pricked out in the hot-bed.

Sow in hot-bed seeds of Asters, Balsams, Chinese Pink, Chinese Primrose, Cineraria, Petunia, Phlox Drummondii, Portulaca, Ten-Weeks Stock, Sweet William, Verbena, &c.

Have plenty of mats ready to shelter hot-beds at night and during cold storms.

The sun is strong now, and when it shines be mindful to give air to the beds.

Sow the earliest varieties of Peas, and prepare land for sowing Onion seed at first opportunity.

Grape vines in the garden and vineyard should be pruned this month. The necessary pruning of all kinds of fruit trees and hardy ornamental trees can be well performed at this time.

Blooming plants in the greenhouse and window must be screened from the brightest sun in order to retain the bloom.

Many newly struck bedding plants will now be potted off, and old, woody, or half woody plants that have been kept dormant, such as Fuchsias, Pelargoniums, Crape Myrtles, Lantanas, Hydrangeas, Oleanders, Pomegranates, Roses, &c., can be repotted and started into growth.

Gloxinias, Tuberoses and Dahlias can

be started, and the latter can be increased by cuttings of the green wood.

A GREAT WRONG.

An International Parcels-post treaty between the United States and Canada, takes effect on March 1st. By this arrangement all the mail matter included in the provisions of the treaty will be sent in the mails from one country to the other at the single rate of postage prevailing in the country where it is mailed. Seeds, bulbs and plants are among the specified articles, and, as the rate of postage on them is four cents a pound in Canada, they can be mailed in Canada and sent to this country at that rate. This is a discrimination against our own country with a vengeance. The cost of sending seeds, bulbs and plants from Canada to any Post Office in the United States, four cents a pound—four pounds for sixteen cents. From one Post Office to another in this country, sixteen cents a pound—four pounds for sixty-four cents.

We ask our readers to make all possible effort to exert their influence upon the Members of Congress from their districts to remedy this evil, which affects every purchaser of seeds in this country.

POTATOES IN PEACH ORCHARDS.

I have been a grower of the Peach for more than twenty years, and would not plant Potatoes in a Peach orchard; at any rate, they do not do well on my soil, which is a clay loam, good for wheat, corn or grass. I had quite a severe loss by so doing before I found out what was the matter with the trees; I never had a good crop of Peaches on the land that had been cropped with Potatoes some three or four years, but not in succession. The trees on the rest of the field did well, and all of the trees were from the same nursery. I think the Potatoes assimilate the potash to the injury of the trees.

E. P. TOMLINSON, *Hunterdon Co., N. J.*

THE GARDENER'S MONTHLY.

This journal, so long under the able editorship of THOMAS MEEHAN, has been discontinued. Mr. MEEHAN is expected to contribute, more or less, to the *American Garden*. Mr. MEEHAN has done able work in the cause of horticulture, and we trust he may long continue to give the public his best thoughts.

GARDEN VEGETABLES.

A paper on this subject was read by M. B. FAXON, before the Massachusetts Horticultural Society, at a meeting held on the 28th of last January, from which the following selections are made :

A garden containing one acre, or even less, will amply supply ten persons with all the luxuries of the season ; and, since most cultivators of land can spare that amount as well as a less one for the uses proposed, one acre has been taken as a basis for computing the allotment of ground amongst several crops, and similar details.

In order to cultivate vegetables with success, proper attention must be given to the preparation of the soil. After selecting the location, the first step is to see that the ground is properly drained, so that all surplus and stagnant water which may accumulate can pass freely away. After this is effected, the ground should be trenched as deeply as the nature of the soil will permit, and should be thoroughly enriched with plenty of good barnyard manure. Vegetables can be raised with more or less success on soil of varying richness, but, taking an average piece of ground, if five or ten cords of good barnyard manure were to be spread broadcast and harrowed in at some time during the fall, and in the spring five hundred to one thousand pounds of some good chemical fertilizer be dropped in the rows at planting time, this would be, no doubt, about right for a garden like that under consideration.

The essayist regarded it as a very important point in forming a new garden, so to arrange the planting of the different vegetables as to insure both a judicious selection of sorts and a proper time of planting for each of the varieties selected, thereby securing for the table a succession of the different kinds extending throughout the season, rather than a dozen varieties all coming in together, when it is impossible to use more than three or four ; or, on the other hand, the occurrence now and then of times when there is no vegetable whatever ripe for the table.

Upon the supposition that a garden of one acre has been prepared and is ready for planting, and that it is early spring-time, say the first of April, the speaker recommended, first, to lay it off in rows uniformly, if possible ; and next to assign to each intended crop the rows or portions of rows that will be suitable for it to occupy. Upon the basis proposed, of adapting the garden to the wants of a family of ten persons for one year, in an average of seasons and for the purpose of illustration, he assumed the piece to be oblong in shape, one hundred feet wide and four hundred and thirty-six feet long ; this to be so divided into rows as to give one hundred and nine rows, each one hundred feet long ; each row being understood to include a surface of one foot wide, on which would be placed the seeds or plants ; there would then be left an interval of three feet between each planted strip and the next one, affording ample space for horse cultivation.

Asparagus.—The roots should be planted at intervals of twelve inches in the row, the crowns from four to six inches below the surface. The spring is the preferable time. Two-year-old roots should be used ; and it is not desirable to cut Asparagus for the table until the second season, or two full years from the planting, as this interval is necessary to the proper establishment of the bed ; but afterwards it may be cut annually. The variety known as Conover's Colossal was recommended. Three rows will

not be too much, and will take about four hundred plants.

Pole, or Running Beans.—These, as a class, are not very hardy, and cannot be planted until settled mild weather. Limas and Sievas being very tender should not be planted before the ground is very warm and mellow.

Bush, or Dwarf Beans.—Though somewhat harder than the preceding, they should not be planted until settled weather. All Beans do best in warm, light soil, but will flourish in almost any soil or situation unless shaded or wet. Early Yellow Six Weeks and Dwarf Horticultural are the best among the green-podded kinds. For yellow varieties, Golden Wax, White Wax and Black Wax take the lead. Of String Beans, as we need a bountiful supply, two rows should be planted, divided somewhat as follows : One-half row of Early Yellow Six Weeks and one-half row of Golden Wax, planted, say May 20th. Then wait till about June 10th, and plant at that time another half row of Golden Wax and half a row of Dwarf Horticultural.

The Beet.—It requires a deep, sandy loam ; should be sown as soon as the ground is in good working order, and the plants, as soon as well up, should be thinned to eight or ten inches apart for the early crop. Beet tops, used as greens, are by many preferred to Dandelion or Spinach ; the Swiss Chard, or Silver Beet, is grown entirely for this purpose. It sends out fresh sprouts continuously during the season, no matter how often cut off. One row should be planted with Beets for supply of greens and early roots, and another with Dewings for winter use.

Cabbage.—One had better buy the few plants he will require for the early crop than attempt to raise them from seed, unless he has hot-beds or chooses to raise the plants for the pleasure of growing them. They should be set in the ground about the 20th of April. Winter Cabbages can be raised from seed sown in open ground between the 10th and 20th of June. Half a row of the early kind will suffice. Of the late sorts we may plant freely, as there will be plenty of room to put them in after the Pea crop has been gathered and cleared away.

The Cauliflower.—This crop can be grown quite successfully by some amateurs, though it is generally left to the experienced market gardeners. Strong, stocky plants are needed. The culture is the same as that of the Cabbage. At least a row will be needed, and this will take seventy-five plants. One can raise his own plants if he chooses, or at the proper time supply himself by purchasing. Early Snowball and Dwarf Erfurt are good kinds.

Celery.—This is also a "market gardeners' crop ;" though not difficult of cultivation, the plants are obtained by growing or purchasing them in the same way as Cabbage or Cauliflower plants. They are to be set in the open ground between the 15th of June and the 1st of July. The crimson Celeries have one advantage over the white kinds that in the spring, when the latter have become soft and lost their aroma, the former are as good as when gathered in the fall. One hundred plants will occupy one of the rows we are speaking of, as the plants should be about twelve inches apart ; it would be well enough to plant two rows, as Celery usually follows some early crop.

The Carrot.—To grow Carrots to perfection there is needed a good, light and well enriched sandy loam. The earliest kind is the French Forcing, a little round Carrot, of delicious flavor. The Early Scarlet Horn is next in order ; a very fine grained and agree-

ably flavored kind. A good strain of Danvers Half Long is best for general use. One-half row will be sufficient for flavoring the winter soups and stews.

Sweet Corn.—This is universally grown, being ready for the table at a time when the early summer vegetables are nearly gone by and the fall vegetables are not quite ready. It is better to plant in rows than in hills, and if the plants are thinned to about eight inches apart, the yield of the rows will be larger than can be obtained from hills. By successive planting every two weeks from the 20th of May to the 1st of July, made with any good variety, a continuous supply may be had, covering a longer period than if several different varieties, of early and late kinds, are planted at the same time; for as the season advances it seems as if all kinds were ripening together. It is well to plant enough for a bounteous supply all through the season; at least eight rows should be devoted to Sweet Corn.

The Cucumber.—Cucumbers in the open ground should be planted about July 1st. A dozen hills will supply all that is needed of the table sorts; but in planting for pickles each family must consult its own needs.

Lettuce requires to be grown in a moist soil, and cool weather; for this reason, the best is obtained only in the spring or early summer. For New England, the black seeded Tennis Ball, when solid heads are required, and the Boston Fine Curled for a curled Lettuce, are both desirable varieties. One-half row of Lettuce will be sufficient.

The Musk Melon.—It is to be planted in hills, and thinned to three or four plants in each hill; but must not be planted until the ground is warm, for it is almost as tender as the Squash. Half a row will furnish a good supply.

The Water Melon.—The same culture is to be employed as for the Musk Melon.

Onions from seed.—Plant seed in rows as soon as the ground is workable in the spring, and, when well up, thin to four inches apart. They must have clean, thorough and constant cultivation during the growing season. The yellow are favorites in this section. It will be well to have three or four rows of them.

Onions from sets.—Sets are small Onions which produce early large ones for salads or for the table much earlier than they could be grown from seed. They should be set out about the middle of April. The white ones are by far the best. Half a row of sets will be enough, making the row a foot wide and setting the bulbs four inches apart, thus having a row of three sets wide. Two quarts of sets will be needed.

The Parsnip.—The seed should be planted very early, and when well up thinned to six inches apart. The quality of the roots is improved by frost, and a portion of the crop may be left in the ground, to be gathered in the spring or earlier, as occasion favors. Two rows will supply a good yield, for which one-quarter of a pound of seed is required.

Peas.—This vegetable is eaten by every one. It is almost always placed first on the list of vegetables to be planted in the family garden, and is so much liked that there is not much risk of providing too abundantly. To have a good succession of Peas for the table from the 17th of June until the middle of July or first of August, or later even than this, it is necessary to make several plantings and to use quite a number of varieties; early, medium and late. If the Peas planted are such as grow over two feet in height, they must be bushed, otherwise they will fall over on one side or the other; the vines will be apt to mildew and the crop will be less than if they are

properly staked up, and the garden will not look neat and tidy, as it should. The dates of planting the different sorts do not lead to corresponding intervals in gathering the crops. For example, though five days difference in date of planting Peas in April will make about as many days difference in the time of the harvesting in June, yet five days difference in planting in May will make hardly any visible difference in the ripening in July.

The Radish.—This will thrive in any good soil; but to be crisp and tender must be grown quickly. If a continuous supply is wanted, make sowings every ten days or two weeks. French Breakfast and Early Long Scarlet are both excellent. Half a row, planted at intervals, will be sufficient.

The Squash.—This is one of our tender annuals, and should not be planted until all danger of frost is past; and, aside from the tender nature of the plant, the seed itself is liable to rot in damp, cool weather. Fine plaster is about as good an article as has yet been found for driving away the bugs. A dozen hills of the summer kinds will be enough, but of the fall and winter sorts five or six rows should be planted.

The Tomato.—Tomato plants should be set out about the 1st of June; the ground should have been made very rich, and if it is kept free from weeds, no further attention will be required. Just before frost the vine may be taken up with all the earth that can be kept adhering to the root, and transferred to the cellar, where all the full grown Tomatoes not already picked will ripen. The essayist has seen perfect ripe Tomatoes of most excellent quality on the table at Thanksgiving, which had been ripened in this way. There are so many good varieties of this vegetable that it is hard to make a selection. Three or four dozen plants may be required in order to furnish a good supply all summer; they should be set eight feet apart, and will occupy about two rows such as described.

The Turnip.—Turnips are propagated from seed in the ground where they are to grow, as they do not bear transplanting. Early crops are sown as early as possible in the spring; Swede Turnips later, about June 1st, while the Purple-top varieties may be planted either early or late; and from sowings as late as August 15th good crops may be secured.

HOT WATER FOR PLANTS.

It is a fortunate circumstance that a plant will endure a scalding heat that is fatal to most of its minute enemies. Water heated to the boiling point, poured copiously over the stem of an enfeebled peach tree, and allowed to stand about its collar, will often have the happiest restorative effects. Trees showing every symptom of the yellows have often been rendered luxuriantly green and thrifty again, by this simple means. The heat is presumably too much for the fungus which had infested the vital layers of the tree, immediately under the outer bark.

The London florists recommend hot water, up to 145° F., as a remedy, when plants are sickly owing to the soil souring—the acid, absorbed by the roots, acting as a poison. The usual resort is to the troublesome job of repotting. When

this is not necessary for any other reason, it is much simpler to pour hot water freely through the stirred soil; it will presently come through tinged with brown. After this thorough washing, if the plants are kept warm, new root points and new growth will soon follow.

A lady friend had a fine Calla in a three gallon pot, which showed signs of ill health. On examination the outer portion of the filling was found mouldy, it being in large part fresh horse manure. As repotting was inconvenient, the plant being in flower, hot water was freely used; it killed the mould, and the plant began to revive and was soon all right.

W.

ÆSTHETICS IN AGRICULTURE.

Take any dooryard as you find it, and without any expense or labor worth naming it can be transformed into an exquisite lawn. But education is a growth, and when the owner's taste has been brought to this point, his ideas of beauty will gradually expand, and he will want to go farther. A few flowers, a vine over the door, some shrubbery and trees by the roadside will be suggested. Here, too, great satisfaction can be got without much outlay of money. It is marvellous what large returns can be obtained from a very small investment. Every farmer should have some place for flowers, but he should not attempt too much in the shape of elaborate gardens, fantastic designs on the lawn, or rare and expensive plants. The plain, rich carpet of grass would be preferable to such things. But every one can raise a few of the old-fashioned flowers which grow easily, do not require a great amount of attention, and are unsurpassed in beauty. Their commonness does not change the immutable laws of proportion and color which constitute the beauty of a flower or plant. A group of Hollyhocks, Sunflowers or Dahlias in the background, and such flowers as Phloxes, Zinnias, Asters, Larkspurs, Marigolds or Petunias in appropriate places, and Morning Glories and Sweet Peas over the porch will add many fold to the attractiveness and home-like appearance of hundreds of farms. If one has the time, taste and money for imitating the professional landscape gardener, well and good; but more should not be commenced than can be carried out. It

should be remembered that one common plant, lovingly cared for, so as to be thrifty and luxuriant, is better than a large yard full of neglected, weedy or hen-scratched attempts at floriculture. Simplicity always looks better than over ornamentation; large collections are not necessarily tasteful or desirable.

G. W. WHITAKER, before *The Massachusetts Horticultural Society*.

NOTES AND MEMORIES.

At a meeting of the Massachusetts Horticultural Society, the middle of January, the Rev. A. B. Muzzy read "Notes and Memories of our early Horticulture." The paper was interesting throughout. A few notes from it can here be given:

The essayist stated that his grandfather had a few Pears; the old Scotch, the attractive Bon-chrétien, and the delicious St. Michael; with the Pound pear, a lofty tree which supplied bushels of cooking pears for two families. There was also a choice tree of what he called "pear apples," combining the spiciness of the apple with a rich pear flavor; and a nut tree, the fruit of which he insisted (and the children agreed with him) was equal to the best shagbarks.

The father of the essayist took an interest, unusual for those days, in the production of choice fruit. He grafted many trees with the Blue Pearmain, Rhode Island Greening and Cathead apples (the last a choice fruit for the table), a small red apple, perhaps the Red Astrachan, and a fine large and juicy sweet apple called the High Sweeting. The last served the family particularly well during the war of 1812, when their food as well as clothing was, from the high embargo, necessarily of the cheapest kind. Their Sunday after-service dinner was uniformly made up in part of this sweet apple, baked in the old Dutch oven, and with the rich cream from their dairy it formed a delicious repast.

The essayists love of nature led him frequently to wander through the woods, the fields, and the meadows; every shrub was noticed and known, and every tree of wood and field was a study for the boy; and those lessons were never forgotten. Every boy and every girl, too, ought to be taught the names, and, as far as possible, the habits of our native shrubs and trees, as one of the most effective means for instilling and promoting horticultural tastes in the community.

His maternal grandfather had an apple orchard containing some excellent varieties, one of them, the Honeycomb, too tempting for health to the appetite of the boy."

His far-famed peaches are well remembered; one tree stood in a plat quite near his house, and the branches were not only loaded, but lay on the ground under their burden of old-time "rare-ripes," blushing red, so juicy as to melt in the mouth, and yet perhaps (the grape only excepted), the only fruit so pure and good that they never injured the little fellow who put them to a full test. Back of the house stood a majestic chestnut tree, which bore the largest nuts on the farm. A boy who was no lover of early rising was sure to be up after a frosty night to pick up the chestnuts, forestalling the sheep, who thought they would be on hand first, but were usually mistaken. Sixty years afterwards he saw

that same tree, and could understand why the old Greek, among his many gods, was sure to worship a goodly tree.

The love of nature, early acquired, followed the young man in college, where he found Thomas Nuttall, as professor of natural history. Of a classmate and himself, he says, they walked each summer's Saturday, with the professor, through the then woods and wilds of Cambridge, absorbed in the man as in the science he taught them, and the essayist gathered there and elsewhere an herbarium of wild flowers, which for long years was a source of special interest. Professor Nuttall, who was born in England, came to this country in 1810, explored the great lakes, Arkansas and the Pacific coast, and published in 1821 a "Journal of Travels." From 1822 to 1834 he was professor of natural history in Harvard College and curator of the botanical garden. He was an authority on natural history, and published works on ornithology and botany.

Of Thomas G. Fessenden, long time editor of the New England Times, whom he once heard delivering a lecture on temperance, he mentions the remark, that the appetite for strong drinks might be checked by a free use of fruit. This topic is not only appalling to humanity, but germane to the objects of our society. The more we encourage the culture of choice fruit, and the more widely it is circulated through our community the more we shall accomplish in resisting the sway of that prince of evil spirits, and foe to all moral and national well-being, *intemperance*.

* * * * *

We cannot, in justice to our subject, pass by the record of that illustrious man, Asa Gray, in 1847 made a corresponding member of this society. For nearly half a century he has been professor of natural history in Harvard College. A large proportion of this time the essayist has known him personally, not only attending his lectures, but meeting him in private, where his modesty has been as remarkable as his merit—so kind to all who have met him, at his home among the flowers, whose inmost nature he so well knew, and of whose beauties and virtues no less than of their most latent scientific properties he has profoundly written—a man honored abroad as at home, whose titles could never rise above his deserts. Who has not been delighted, when other authorities would fail to describe some perplexing plant or flower, he could say at length, "Go to Gray's book, and you are sure to have your desire gratified." Smitten as he now is, at a good old age, with what may prove his final disease, let us hope he may yet be restored and enabled to complete the work he has still in hand.

BOYHOOD DAYS OF DR. GRAY.

MRS. C. H. CARPENTER, of Chicago, in a private letter to us, relates the following incident which recalled to her father his acquaintance with ASA GRAY in boyhood:

I. S. FOSTER, my father, was fond of fruit raising, and we had always indulged in flowers and fruit in a small way. I recall how a short time before his death, his face lighted up as I mentioned to him one day, a pretty pink Geranium called ASA GRAY. Why! he said, I use

to go to school with ASA GRAY, he would tie the horses in a corner of the fence when his father set him at plowing, and go off in the woods digging up roots and weeds, and forget all about the work until his father came to see how the work was getting on, and be very indignant upon finding how matters stood, little imagining that that very taste for roots and herbs, would make his son's name famous; that was many years ago, in Paris Hill, N. Y.

IN CLOVER.

Let me lie down in the Clover,
Where the Daisy blossoms blow,
And the yellow bee, like a lover,
Sips sweets from their cheeks of snow.
No prince in his royal palace
Has softer couch than mine,
As I drink from a Lily chalice
That the morning filled with wine.

The brook is singing so softly
That I cannot catch its words,
But its voice is like an echo
Of the music of the birds.
A robin, high up in the Maple,
Sings with a hobolink
A duet of merriest music,
As I listen, too idle to think.

What is the use of thinking?
It is better to dream and rest,
And forget all the things that vex us,
Though dreams are but dreams at best.
In this sweet, still, balmy weather,
It is easy to quite forget
That life has its toil and trouble,
And put by all vain regret.

Happy is he who remembers
Naught of the busy strife—
Naught of the din and discord
That jars on the chords of life.
So, let me lie in the Clover,
And dream the long hours away,
Forgetting the work of to-morrow
In the peace that is mine to-day.

EBEN E. REXFORD.

A "SCRAPE" IN THE GARDEN.

My husband wishes me to say to you that your seed has been the means of getting him into a scrape, as he has to help fix up my beds. He thinks that I will work myself to death trying to make my yard more attractive than my neighbors. But, I notice, when the flowers come, that he is delighted to get his button-hole bouquet every morning, and to hear him talk of his beautiful flowers to his friends, one would think he did all the work.

MRS. A. P. P., *Quitman, Ga.*

COLD STORAGE OF FRUITS.

A paper on this subject, read before the Western New York Horticultural Society, at its late meeting, in this city, has something of interest to those who wish to preserve fruits during winter, and from it have been taken the following extracts:

My inquiry is, in what condition can fruit be placed to best preserve its good qualities and retard its decay? There seems to be two distinct active processes in the growth and development of fruit. The first is the growth; the collecting and building up of a compound of comparatively solid structure which is unpalatable, indigestible as an article of food. The second is the ripening process, a kind of organic ferment, a breaking down, softening, dissolving, rendering palatable, easily digested and valuable as food; in this change the volatile oils are generated, giving flavor and character to fruit.

In the second stage of development ripening can be hastened or retarded, and when fully ripe, decay can be delayed. In the second stage fruit should not be left open and exposed to atmospheric changes of temperature or moisture; flavor is lost by evaporation.

Advantage to the fruit grower will result from checking too early maturity, and from preventing early decay after harvesting. His success demands a place for storage with surroundings favorable for preservation. One condition is conceded by all—that the temperature must be lower than that required for growth. That 32° is too low seems to be the conclusion of those best qualified to judge.

Fruit kept long at that temperature, although apparently unchanged when removed, soon sinks to decay; not, apparently, from over ripeness, but from the permanent suspension of all active forces. The process of decay, not that of ripening, takes possession. California shippers of Oranges have come to the conclusion that refrigerator cars do not pay, in fact, that they have occasioned great loss. It seems that the condition most favorable for the preservation of fruit without loss in quality would be secured by a store-room having the temperature so low as to check, not wholly destroy, the forces at work in the fruit, whether those forces be chemical or or-

ganic—so low that spores would not be active—the air so damp that moisture would not escape, while the temperature and moisture should remain uniform. Apples, as well as Potatoes, buried in the ground, and so covered as to be protected from heat and frost, come out in the spring as fresh and bright as when buried in the fall. Grapes picked and wilted, then buried in stone jars three or four feet below the surface, will come out with stems green and fruit plump and bright. In these two cases the temperature and moisture remain more uniform than could result with atmospheric exposure. Cellars having springs in them, or streams of water passing through them, are noted for keeping Apples and vegetables fresh, even until late the next season; the water acting as a regulator of both temperature and moisture. These methods of storage approach the conditions specified above, and the nearer the approach the better the result.

If such conditions as above presented are favorable for the preservation of fruit in all its stages of ripeness, the question arises, how can they be best and economically secured? The creameries and milk rooms now in use in the Western States present the most satisfactory solution of the problem, as in them the above conditions are economically realized in their most perfect form. These rooms are inclosed on the top, bottom and sides with some four dead airspaces, with double doors for entrance, and they are made as nearly air tight as possible. Fresh air is supplied at the bottom through a subterranean passage about twelve rods long and eight to ten feet below the surface of the earth. This passage is about two feet wide and one foot high, formed of stone work; through it a constant current of air is passing into the room. The temperature of this air is controlled and regulated by that of the earth at the depth of the passage; moisture will be deposited if the temperature is lowered, or taken up if the temperature is increased, so as to give nearly a uniform amount in the room. Professor ARNOLD is authority for saying that while the extremes of heat and cold in those States vary from 110° above to 40° below, these rooms will not vary in temperature over 5° during the entire year, uniformly remaining near 50°. The air is pure, and

the room is perfect as a milk room. Ventilation is perfect, with uniform temperature and moisture.

Such a building need not necessarily be expensive. It can be built of coarse lumber, the air spaces sheeted with building paper, the stone passage can be put down for from \$5 to \$8 per rod, depending upon the hardness of the soil and the proximity of stone. I have no knowledge that any such appliance has been used for keeping fruit and vegetables, but it seems to present just the conditions necessary for retaining every valuable quality in fruit and vegetables, and for checking the activity of the elements of decay. My purpose is to present the above consideration to fruit growers, and would like any criticism from any members of the society.

Professor ARNOLD says a Mr. BEACH, of Wisconsin, has tested his milk room, and finds it a perfect place for storing fruits and vegetables to preserve without decay or change.

At the close of Mr. CRANDALL'S paper, the following discussion upon it ensued:

Mr. SMITH, of Syracuse. I think this paper has the most practical common sense in it that I have ever heard on the subject. The plan is very simple and easy. I would suggest that sewer tile would answer in place of stone, and would be much cheaper.

Mr. RICE thought sewer tile not so good, because of the holes; the stone should lie flat upon the ground.

Mr. BILLS, of Mount Morris. I have had some experience with cold storage. I live in a brick house, with a cellar having an alley way on the north side, of about twelve feet, in which I stored some Apples last winter. I put in some four or five barrels of Greenings, which we did not open till the last of May, and they were as sound then as when first put there. When a barrel was opened and left standing in this same place the Apples did not decay, but if moved to the cellar they began to decay in about a week or ten days.

Mr. YOUNGLOVE. Many Grape growers have picked Grapes into trays, and carried them from the fruit house and laid them out of doors on the north side of the house, covered with tarpaulin where they were left for several weeks until cold weather. They should be well

cared for in the beginning, and well cooled off before storing.

Mr. SANDERSON said he had built a new cellar, in which he left the windows open at night to keep the temperature even. The temperature did not change five degrees from fall till spring, keeping at about 45°. It had a double wall, with an air chamber and ventilators. It was ceiled and cemented overhead, and he could change the air in about five minutes.

Mr. HOOKER. Our experience with cold rooms above ground is preferable to cellars. The walls may be filled with saw-dust. The idea of putting fruit in the autumn on the north side of the building until too cold to longer remain out is a good plan.

Mr. W. C. BARRY. I agree with the remarks of Mr. HOOKER. We must aim for fruit storage houses above ground. You will never get what you want in building under ground, where there is always dampness. I think you can erect a wooden building with walls thick enough to keep out frost. Fruit kept in the cellar with other fruit and vegetables is not what it ought to be; there is a taint to the flavor, and a great deal of fruit is injured by being kept in this way. A person living in the city ought to have a house to preserve the fruit he wants for the table. If we do not see fine fruit on the table every day through the winter, it is a sure mark of great negligence on the part of somebody. I do really believe that it is not an impossible thing to build a fruit house above ground simply by having walls lined with hay, straw or sawdust, and provided with dead air spaces. I only suggest. The walls may be built two, three or four feet thick. The fruit exhibited here is from a cold storage house, and has been brought into the warm temperature of this room without any bad effect. It has been kept in a cold room, secured from frost. During the recent cold spell the temperature got four degrees below freezing, but it was stored in boxes and kept covered and so was not hurt. When fruit is gathered, don't throw it into piles, but place it in boxes and keep it in the open air, protected from the weather, as long as possible. This fruit was not put in the room until December, it was in the open air until that time, covered with mats. Do not be in too great a hurry to get the

fruit into the fruit house with the first cold snap.

Mr. SNOW. How about the use of ice; is it recommended?

Mr. MOODY, of Lockport. In our town we have a large fruit house, which has had the reputation of being a fine one until within a year, when it has been condemned. They put in large quantities of ice, and Plums were stored there, but they did not keep. I have a good deal of doubt whether ice has any advantages. Fruit decays quickly after being stored in ice.

Mr. RICE. I have heard of a house similar to the one described by Mr. CRANDALL, and the atmosphere could be reduced, in September and October, to 50°. The question is, if that is not better than leaving out of doors?

Mr. HOOKER. We have had some experience in that direction. We found, by putting our Apples in the cold fruit room, they would keep better than in open sheds; they were in better condition later in the season than those kept in sheds not prepared as this room. We used no ice, and the temperature was steady.

Mr. WOODWARD, of Michigan. I came here especially to hear this question discussed. We have both cold air and ice storage houses in Michigan, and ice is a failure. You can keep the fruit an indefinite length of time, but when it is to be taken out, you want your customers at the door to eat it. Mr. BARRY's plan is good; but you can build *too cheap*. A cold storage house should be built with good width of walls, inside of which is a partition, so you can have the protection of sawdust or straw and an air chamber besides, while overhead there should be

thorough protection; cold air always lies at the bottom.

MR. PIERCE'S PEAR ORCHARD.

If Mr. PIERCE's Pear orchard be rich enough "to bear heavy Corn," why further enrich it? And with nearly two hundred per cent. loss of trees in eight years of cultivation, why break the soil at all, except, perhaps, to scarify the surface by means of a sharp toothed drag? A simple, homely remedy for many tree ailments and enemies is wood ashes, or, if not to be had, coal ashes with a sprinkling of lime—but ashes; ashes to be used freely before mulching (against frost or drouth); after mulching, that no tree enemies may harbor therein, the mulching itself, when gathered up, to be burned and returned to the trees. Young trees should have plenty of iron filings or cinders around the roots when planted. If the iron is not needed it will not be absorbed, therefore there can be no harm in its use.

M. B. BUTLER.

PEAR BLIGHT—HELIOTROPE.

I see in your last Magazine, F. B. PIERCE wants some one to tell him something which will be likely to prevent his Pear trees from blight; I will give our experience, and that of others whom we know. First, cut away all blight parts and burn them, then get a barrel of salt and scatter it out around as far as the roots extend, say eight or ten feet, at least one-half peck to a tree. We think it almost a sure cure.

I would like some one to give experience in keeping Heliotrope Plants over winter; the leaves will turn black.

E. McC., *Newcastle, Pa.*



OUR YOUNG PEOPLE.

A MORNING'S CONVERSATION.

One midsummer day, as Kathleen was congratulating herself on the tidiness and improved appearance of the newly renovated sitting room, in came her brother, warm and tired after a sharp battle with weeds, and seated himself in an easy chair with his boots laden with soil.

"Why, Clarence Raymond!" exclaimed his sister, "look at the feet you've brought into this clean room. I wish you could ever remember that 'cleanliness is next to godliness.'"

"My boots are dirty, that's a fact," answered Clarence, looking down at them ruefully, "and I'll tip-toe out, directly. But see here, if cleanliness in our persons and households is such a virtue, I'd like to know why it don't apply to flower-beds and borders as well. For my part I am positively mortified when passers-by look toward where your flowers are supposed to be. I hope *I* shan't be credited with such a display."

"Oh, yes, you can criticise my flowers, now that you've barely got your garden in decent order—couldn't wait to clean your boots, even. What did it look like only last evening, pray? Weren't we all ashamed of it?"

"I was, any way. But now it's all tidy, and your beds and borders look worse than ever. Remember my garden is only for the plain, useful things of life, while flowers are solely for ornament. Highly ornamental to the place is your attempt at floral decoration! you'd better, by far, pull up the forlorn-looking things, and let the flourishing weeds mature as botanical specimens of native growths. Last spring, when you were seized with such a mania for having a floral display this season, nothing would satisfy you short of removing loads of sods and turning up a lot of fresh soil; and when father reminded you that he could not employ a special gardener, you declared your intention of having the whole care yourself to show us what you could do. You have shown us, truly!"

O, Clarence, you cruel boy; how you do go on! The fact is, I'm just heart-sick

and completely discouraged. It was first the drought, and then the moles, and your pet dog all the time, that have played the mischief with my plants, until I have given up in despair. I can't imagine why there had to be a drought this particular summer, just when I had attempted to do something outside. I undertook the work with the understanding on my part, that the clouds were to supply the water, and didn't propose to swelter myself every pleasant evening, and spoil my pretty afternoon gowns with tugging water about—water that I've first got to pump into tubs that the sun may warm it;—double trouble, you see.

"I don't mind rising early six mornings in the week all prepared for getting wet and drabbled,—don't mind being warm and weary on a fasting stomach, but when I am through I want it to last 'till next morning, and not have to begin again at sundown, making perfect drudgery of flower-culture, instead of its being the pleasure it ought to be. If the clouds had done their part, and the moles had let my work alone, and your dog had been killed as a nuisance, I should have done less hard work, and have heard praise instead of reproach, for the success of my efforts. As it is, I wish the whole disgraceful show were well hidden under smooth turf once more. I never knew, until now, how perfectly beautiful the green grass is. What a dunce I was!"

"Not at all, Kathie. I see you have made out a strong case from your standpoint, which greatly modifies my recent opinion of your failure. But don't you think that, perhaps, you undertook too much for a beginner? Isn't that the chief trouble after all?"

"It may be. But don't you see that if everything had been favorable, I was sure to have succeeded any way? I didn't give up until I found it was continued drudgery with poor returns, and no hope of anything better."

"I see; but if you'd been less independent, and told me long ago of your worries, I would have helped you. At

any rate, there is no reason why everybody should not have a few flourishing flower plants and shrubs, and I suppose we all should take into account the possibility of droughts and hail-storms and drenching floods, for they're sure to come occasionally. At present, you have certainly too large a job on hand, and I'm going to help you out with it, and begin now."

"O, splendid! you've no idea how I've worried over my failure. I was too proud to confess how much I found to contend with in a scheme of my own planning, until now, my patience being quite worn out. And your application of 'cleanliness is next to godliness' to my neglected work, spurred me on to confession; for I knew instantly that it is as true of that as of any other slovenliness. But how can ever you manage the moles?"

"I shall poison them by punching holes in their runways and dropping in corn that has been soaked in arsenic-water, well sweetened, to tempt the moles sweet tooth; for we're told he has one, and that the sugar will catch him when he will not touch the bait without it."

"But, Clarence, I've heard or read that moles eat no vegetable substance."

"Yes, some high authorities say that; but where they abound as they do here, in this dry, sandy loam, that has been disproved. You remember the mole-ridge, along the line of Lima Beans that would not come up, and how father found the sprout eaten off of every bean."

"Perhaps the cut-worms did it, and the moles were after the worms."

"Well you're sharp to think of that. But if it happens again, I'll catch a mole by some strategy and examine his stomach. It isn't likely, however, that cut-worms could have made such clean work with all those bean-sprouts—not leaving one. It is generally said that the English sparrows eat only vegetation, and yet we now get reports of their dragging young birds from their nests and feasting upon them. I hate those sparrows!—and there's little pleasure in killing one, for a thousand will come to the funeral. Father says the last *Agricultural Report* recommends State Legislatures to enact laws for their suppression. I wish they'd hurry up and do it. But unless a reward were offered, people wouldn't spend time at it."

"But how could they be killed when fire-arms are not allowed in city corpora-

tions? You've killed them with strychnine, but you say that's too expensive."

"I haven't tried arsenic on them yet; neither have I tried the plan of the D—boys, who lay wheat, that has been soaked in alcohol, on their piazza and shed roofs and then gathered up the tipsy birds from the ground as they fall, and sell them to the restaurants. And now comes a report from a western man that a flock of owls visits the perches and nests of the sparrows in their town every night, and destroys great numbers of them. So owls ought to be protected."

"Yes, and then if sparrows ever grew scarce, the owls would take the other dear little birds. What would hinder?"

"Just wait until the sparrows get at all scarce, and you'll see. It will be 'O happy day' when that shall happen. But we were speaking of poisoning them. Some poisons act so differently with different creatures that I shall not know, until I experiment, what kinds will be most efficient for sparrows."

"There must be exceptions," said Kathleen, "to almost everything that we think we're sure of. You remember we were told to put strychnine in the chicken food, so's to kill the hawks that were stealing them, and that it worked like a charm. For every chick that was stolen there was a dead hawk, and that ended the trouble, without harming those that were not stolen."

"Yes, and you know that the arsenic-bait that was put into the slop-pail by mistake, and fed to the pigs, did not harm them in the least; and father says that arsenic does not poison swine. And there was that sick kitty—ailing for weeks, and Rough-on-Rats, that was given to end the poor thing's misery, made her well and spry; and everybody knows what mischief it plays with the rats—the poison I mean, not the Kitty, harmless innocent!"

"Be careful, that's my kitty. But I'm thinking now about something else. If we ate the flesh of the pig after they'd had arsenic, we might get served as those hawks were."

"That's so. How uncommonly bright you are, this morning! But it will be some time before arsenic takes the place of corn as a steady diet for pigs; so don't worry. In the meantime, we must see what can be done for your plants. In the first place, we can drive down some of

those roofing slates, that were left over, around the choicest ones, without waiting to see what the sugared-poison will do, and can head them off from their 'runs' in the same way. As for the water required, I shall pump that myself and carry it. When we get our fish-pond, our port-

able force-pump and long hose, we shall change all this. Until that time we must undertake only what we can comfortably manage. Now I'll take myself and garden-boots out of this tidy room. Excuse me please, for being so careless.

MARIA BARRET BUTLER.

WINTER PICTURES.

There is a picture now drying upon my easel which some of my friends have called very pretty. The subject is simple enough; a few clusters of Bittersweet berries, two large Silkweed pods with their fluffy white down, and brown seeds showing, some Teazle heads, and a branch of Balsam with slender bronzy cones.

Among our Carolina woods there are so many beauties which might be made up into just such pictures; the scarlet rose-hips, tangled over our hedges; the Snowberry clusters of frozen aspect; the cunning Partridge berries, glowing like balls of fire from among the brown leaves under foot, nestled among their round, dark green, white ribbed leaves, and the Wintergreen, ah, the Wintergreen, with its berries and crispy, green leaves, so spicily tempting to school boy and girl epicures. Any child who has ever stood ankle deep in a bed of Wintergreen, will always remember just how the brown woods looked in those days when he filled his pockets and dinner-pail with leaves to chew and berries to eat; how he used to trade slate-pencils for them at school, and how he fought

the boy who poured a handful of Holly berries instead of Wintergreen berries into his open mouth.

There is a beautiful wild shrub among our hills, whose blossoms I have never seen, but the berry is a little beauty. The children call it the * "Indian Arrow Bush." Why, I do not know. It seldom grows higher than three or four feet, and the leaves and straight, slender, hardwooded stems are a dark olive green; the berries are borne on the ends of branching shoots all over the shrub, and are about the size of a robin's egg, the shape like that of a diminutive Chestnut burr. The outside of this burr is a dark crimson, and rough, like a Cucumber rind; it bursts into four sections, like a Chestnut burr, and discloses four orange-scarlet seed-vessels, about the size of Quince seeds, delicately poised on slender threads within. The shrub grows along the banks of streams and sloping hillsides, and is quite too pretty to remain unknown. Has any one seen the bloom, and can they tell me the name of the shrub? KATE ELLICOTT, *Greenlee, N. C.*

* *Euonymus Americanus*?—Ed.

GLORIFY THE ROOM.


Wide open throw the shutters, and
The curtains throw aside,
Let in the sun's bright messengers
In all their golden pride.
What matter if from costly rug
They take the rainbow bloom?
They'll shower gems on it instead,
And glorify the room.

Glad are the tidings that they bring
From wood, and field, and hill,
From singing bird and humming bee,
And little dancing rill.

Before them many shadows fly,
They banish thoughts of gloom;
Then, with a welcome, let them in
To glorify the room.

With them comes health—upon the weak
They many blessings shed,
Their kisses strengthen tired eyes,
And touch pale cheeks with red;
No place too drear for them to seek
Its darkness to illumine;
Thank God that we can let them in
To glorify the room.

MADGE ELLIOT.



There was once a Robin Redbreast
Who lived in a shoe,
And to feed her precious babies
Was all that she could do;

For their hungry mouths were open
From morning until night
Till their busy little Mamma
Had satisfied them quite.

And when the day was over
With nothing more to do,
They would snuggle neath her bosom
Safe hid in that old shoe.

Uncle Jon.

ASA GRAY.

The death of Dr. ASA GRAY, the eminent botanist, occurred on the 30th of January, at his home in Cambridge, Massachusetts. To those who, in the study of plants, have been accustomed to turn frequently the pages of his works, and who have therein recognized his authority and guidance, his decease will have much the nature of a personal loss, as it has to the writer of this notice.

When one looks back fifty years, and considers the comparatively scanty records of our native plants at that time, and looks over the work that has been done in the systematic arrangement and correct description of the flora of the greater part of this country, he can only be filled with amazement at what Dr. GRAY has accomplished by patient and persistent study and work.

At the time referred to the Linnæan method of classification of plants was in general use; admirable, as it was, it had been found unequal to accurate and scientific arrangement. Late in the eighteenth century JUSSIEU had completed and promulgated his system; in 1813 DECANDOLLE brought forward a modification of JUSSIEU's system; and later, different European botanists formulated methods of much scientific precision; yet they were not satisfactory.

At the time ASA GRAY became interested in plants, Dr. LINDLEY was still working out his Natural Method, founded on the systems of JUSSIEU and DECANDOLLE. In 1830 the latter published his *Introduction to the Natural System of Botany*, but it was not until 1846 that his "method" assumed its permanent form, under the title of *The Vegetable Kingdom*.

The subject of this memoir was born in 1810, at Paris, Oneida county, in this State. He was the son of a farmer, and in boyhood was trained to his father's pursuit. According to report, he became, while a boy, interested in the examination and comparison of plants. This undoubtedly led to his education, and at the age of twenty-one, in the year 1831, he graduated as a Doctor of Medicine.

Foregoing, however, his practice of the profession, he devoted himself to the study of botany. In 1836 he published the *Elements of Botany*. In 1842 he was elected Professor of Natural History at Harvard College. In 1847 he published the first edition of the *Flora of the Northern United States*, which was dedicated to Dr. JOHN TORREY, his instructor and associate. With most of the botanical writings of importance based on the Linnæan method, with new plants being brought forward by collectors from all parts of this country, which had never before been examined, one may faintly realize the intricate and toilsome task that this tireless investigator was

engaged in. Year by year, quietly and patiently, he continued his researches, and from time to time brought out such text books as were needed by beginners in the study of his favorite science, writing as clearly for children as for maturer minds.

The crowning works of all his labors are not yet wholly through the press, being published by IVISON, BLAKEMAN, TAYLOR AND COMPANY, of New York. These are, first, the *Synoptical Flora of North America*, comprising all the plants of the United States and the North American continent and islands northward, Greenland excluded; this work is to consist of four parts, of which two have been already issued, the others are in an advanced state, and will be completed by able authorities; and secondly, GRAY's *Standard Series of Botanies*, in four volumes, consisting of Structural Botany, Physiological Botany, Introduction to Cryptogamic Botany and the Natural Orders of Phanogamous Plants. The special preparation of the second volume has been the work of Dr. GEORGE LINCOLN GOODALE, and the third is now in course of preparation by Dr. WILLIAM G. FARLOW. The first volume is Dr. GRAY's special work, and was issued in 1879. The last volume is also Dr. GRAY's, and is in an advanced state. In relation to this volume, he wrote in his introduction to the first work of the series, *Structural Botany*, "This, the present author may rather hope than expect himself to draw up." It is understood that the work is now near completion, and will require little more than the editing of the manuscripts and writing out of the notes left behind.

We see in all these works the whole vegetable kingdom presented to our view. We can examine it in detail in its most minute and intricate parts; we can understand the silent laws by which vegetable growth proceeds, and the conditions necessary, for the health and vigor of plants; we have plainly recorded the uses and properties of plants, and the innumerable features which vegetation presents to the economic arts.

Thus, silently and quietly, through a lifetime has Dr. GRAY been at work for the advancement of a science which directly benefits agriculturists, horticulturists, and gardeners and plant-growers in general, and, though more remotely, all mankind.

His labors will endure as a monument for all time, and will inspire many a student of science to persevere against formidable difficulties.

When in England, last year, at Cambridge, the Degree of Doctor of Science was conferred on him, he was most appropriately styled the "Venerable priest of Flora," and as such he will ever remain in the hearts and memories of American botanists.

EDITOR'S MISCELLANY.

HORTICULTURAL LITERATURE.

Our thanks are due to Mr. E. B. Engle, Secretary, and C. T. Fox, Chairman of the Fruit Committee, of the State Horticultural Association of Pennsylvania, for published reports of proceedings at the late annual meeting of said society. Also to the Secretary of the Massachusetts Horticultural Society for various reports.

BEDDING PLANS.

Those intending to make elaborate planting of

carpet beds this spring, will do well to consult the *Book of Plans*, published by George A. Solly and Sons, of Springfield, Massachusetts. It is a practical work, and an excellent guide in the planting of beds in patterns.

BOTANICAL PAPERS.

We would acknowledge, with thanks, the receipt of a copy of a pamphlet *On a species of Balanophora*, new to the Japanese flora. By Tokaturo Ito, F. L. S. This paper is taken from the Linnæan Society's *Journal*, and contains a plate representing the plant